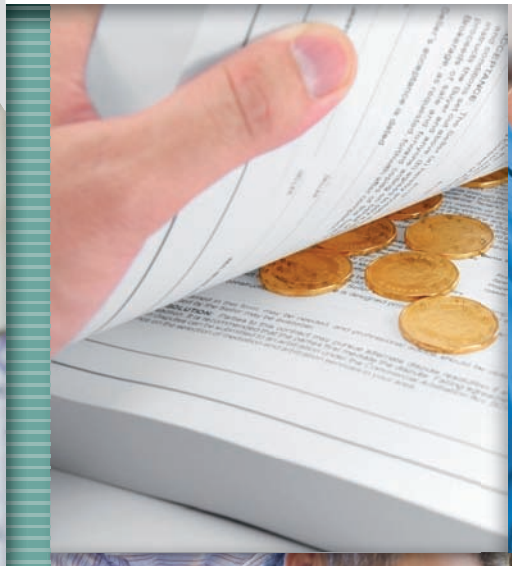
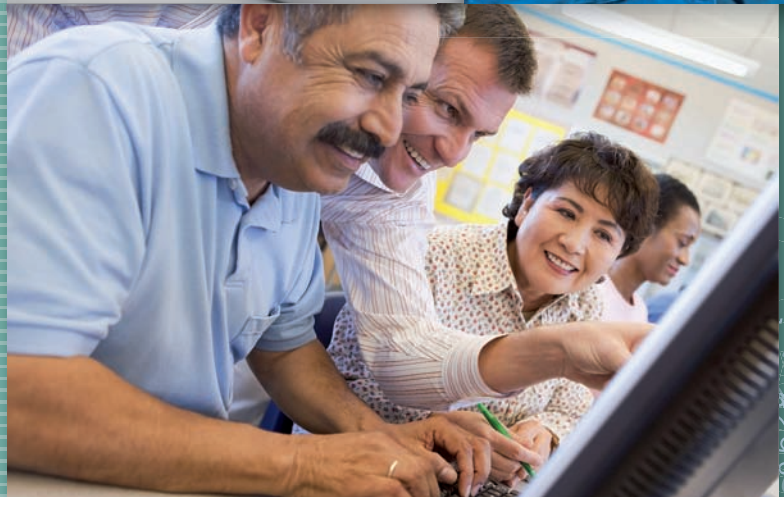
Education at a Glance 2010

OECD INDICATORS





OECD

Education at a Glance 2010

OECD INDICATORS

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Foreword

Governments are paying increasing attention to international comparisons as they search for effective policies that enhance individuals' social and economic prospects, provide incentives for greater efficiency in schooling, and help to mobilise resources to meet rising demands. As part of its response, the OECD Directorate for Education devotes a major effort to the development and analysis of the quantitative, internationally comparable indicators that it publishes annually in *Education at a Glance*. These indicators enable educational policy makers and practitioners alike to see their education systems in the light of other countries' performances and, together with OECD's country policy reviews, are designed to support and review the efforts that governments are making towards policy reform.

Education at a Glance addresses the needs of a range of users, from governments seeking to learn policy lessons to academics requiring data for further analysis to the general public wanting to monitor how its nation's schools are progressing in producing world-class students. The publication examines the quality of learning outcomes, the policy levers and contextual factors that shape these outcomes, and the broader private and social returns that accrue to investments in education.

Education at a Glance is the product of a long-standing, collaborative effort between OECD governments, the experts and institutions working within the framework of the OECD's indicators of education systems (INES) programme and the OECD Secretariat. The publication was prepared by the Indicators and Analysis Division of the OECD Directorate for Education with input from the Centre for Educational Research and Innovation, under the responsibility of Andreas Schleicher, in co-operation with Etienne Albiser, Eric Charbonnier, Pedro Lenin García de León, Bo Hansson, Corinne Heckmann, Karinne Logez, Koji Miyamoto and Jean Yip. Administrative support was provided by Sandrine Meireles, and additional advice as well as analytical and editorial support were provided by Marika Boiron, Niccolina Clements, Julia Gerick and Estelle Herbaut. The production of the report was co-ordinated by Corinne Heckmann and Elisabeth Villoutreix. The development of the publication was steered by member countries through the INES Working Party and facilitated by the INES Networks. The members of the various bodies as well as the individual experts who have contributed to this publication and to OECD INES more generally are listed at the end of the book.

While much progress has been accomplished in recent years, member countries and the OECD continue to strive to strengthen the link between policy needs and the best available internationally comparable data. In doing so, various challenges and trade-offs are faced. First, the indicators need to respond to educational issues that are high on national policy agendas, and where the international comparative perspective can offer important added value to what can be accomplished through national analysis and evaluation. Second, while the indicators need to be as comparable as possible, they also need to be as country-specific as is necessary to allow for historical, systemic and cultural differences between countries. Third, the indicators need to be

presented in as straightforward a manner as possible, while remaining sufficiently complex to reflect multi-faceted educational realities. Fourth, there is a general desire to keep the indicator set as small as possible, but it needs to be large enough to be useful to policy makers across countries that face different educational challenges.

The OECD will continue to address these challenges vigorously and to pursue not just the development of indicators in areas where it is feasible and promising to develop data, but also to advance in areas where a considerable investment still needs to be made in conceptual work. The further development of the OECD Programme for International Student Assessment (PISA) and its extension through the OECD Programme for the International Assessment of Adult Competencies (PIAAC), as well as OECD's Teaching and Learning International Survey (TALIS) are major efforts to this end.

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Editorial

By Angel Gurría, OECD Secretary-General

Investing in the future

In the wake of the global economic crisis, most OECD countries face the twin challenges of making public finances sustainable while building the foundations for continued long-run economic growth. Education is a large item of public expenditure in most countries. At the same time, it is also an essential investment for developing the long-run growth potential of countries and for responding to the fundamental changes in technology and demographics that are re-shaping labour markets.

This year's edition of *Education at a Glance* shows that public resources invested in education ultimately pay off in even greater tax revenues. On average across OECD countries, a man with a tertiary level of education will generate an additional USD 119 000 in income taxes and social contributions over his working life compared to someone with just an upper secondary level of education. Even after subtracting the public revenue that has financed the degree, an average of USD 86 000 remain, almost three times the amount of public investment per student in tertiary education. The returns to society are even larger because many benefits of education are not directly reflected in tax income.

Education also plays a major role in keeping individuals in the labour force longer – an advantage that is becoming a necessity as more OECD countries face demographic and structural changes to labour markets. Not less important, good education increases employability. Focusing on labour market conditions in 2008, the data show that in countries hit early by the recession, people with lower levels of education had more difficulties finding and keeping a job. On average across OECD countries, unemployment rates among people with a tertiary level of education have stayed at or below 4% while for those without upper secondary education, unemployment rates have repeatedly exceeded 9%.

Overall, the demand for better education has shown few signs of slowing, despite the very significant increase in the number of tertiary graduates. In 2007, close to 75% of people across the OECD with a tertiary degree found a skilled job in their first years in the labour market, a percentage similar to that in 2003. The fact that labour markets have absorbed the significant increase in individuals with tertiary education shows how rapidly labour market demand for skilled labour is changing. As global competition for jobs moves up the education ladder, it will be crucial for countries to develop policies that encourage the acquisition and efficient use of these competencies to retain both high value jobs and highly educated labour.

As labour markets change and the demand for competencies rises, adults will need to be able to re-enter education to upgrade their competencies or to change their professions. *Education at a Glance* shows that, across the OECD, more than 40% of the adult population already participate in formal and/or non-formal education in a given year. However, this varies significantly not just between countries but also across education and age groups. For

example, individuals with a tertiary level of education are almost three times more likely to participate in further education than those who have not acquired an upper secondary level of education, which means that those who need such training most are least likely to benefit from it in current education systems.

Despite compelling evidence of the economic and social benefits of education, at a time of tight budgets, there is a strong need for effectiveness and efficiency in the education systems' response to the skill needs of a fast-changing labour market, and countries must find new ways to generate greater value for money from educational investments. It is worrying that the significant increase in spending per student over the past decade has, in many countries, not been matched with improvements in the quality of learning outcomes. The indicators in this year's edition of *Education at a Glance* underline the scale of the effort that is needed for education to re-invent itself in ways that other professions have already done to provide better value for money.

Improving the performance of education systems and raising value for money will be a formidable task for public policy. It will require education systems that have often tended to operate supply-driven to develop effective mechanisms to understand and respond to the rapidly changing economic and social demands for competencies. Effective policies here will require a solid understanding not just of the development of competencies, but also of how effectively economies use their talent pool, and of how better competencies feed into better jobs, higher productivity, and ultimately better economic and social outcomes. The future will measure the success of education systems no longer by how much countries spend on education or by how many individuals complete a degree, but by the educational outcomes achieved and by their impact on economic and social progress. Citizens and employers now expect education systems to:

- be responsive by ensuring that education and training providers adapt efficiently to changing demand;
- deliver quality and efficiency in learning provision so that the right skills are acquired at the right time, at the right place and in the most effective mode;
- provide the flexibility needed to allow people to study and train in what they want, when they want and how they want;
- reduce barriers to entry such as institutional rigidities, up-front fees and age restrictions and ensure a sufficient variety of entry and re-entry pathways; and,
- last but not least, to develop efficient and sustainable approaches to the financing of learning with a rational basis for who should pay for what, when, where and how much.

The knowledge society is here to stay, and requires a capable, highly qualified and innovative labour force. Managing the growth and development of educational systems in ways that improve access, enhance quality, increase performance and boost value for money is not easy. Countries must establish which policy choices and mixes promote efficient learning in their specific contexts. International comparisons can offer valuable insights, as they allow countries to see their own education systems in relation to the quality, equity, and efficiency of educational services achieved elsewhere in the world. Sharing of policy experience can also show how different education systems address similar problems.

Education at a Glance has become an essential reference point for internationally comparative analysis and the OECD will continue to provide international educational benchmarks as a way of assisting countries in developing tailored responses to the public's demands for a more highly skilled, knowledgeable labour force in their specific national contexts. In a global economy, it is no longer improvement by national standards alone, but the best performing education systems internationally that provide the benchmark for success. Success will go to those individuals and nations which are swift to adapt. The task of governments will be to ensure that countries rise to this challenge.

Introduction: The Indicators and their Framework

The organising framework

Education at a Glance: OECD Indicators 2010 provides a rich, comparable and up-to-date array of indicators that reflect a consensus among professionals on how to measure the current state of education internationally. The indicators provide information on the human and financial resources invested in education, on how education and learning systems operate and evolve, and on the returns to educational investments. The indicators are organised thematically, and each is accompanied by information on the policy context and the interpretation of the data. The education indicators are presented within an organising framework that:

- distinguishes between the actors in education systems: individual learners and teachers, instructional settings and learning environments, educational service providers, and the education system as a whole;
- groups the indicators according to whether they speak to learning outcomes for individuals or countries, policy levers or circumstances that shape these outcomes, or to antecedents or constraints that set policy choices into context; and
- identifies the policy issues to which the indicators relate, with three major categories distinguishing between the quality of educational outcomes and educational provision, issues of equity in educational outcomes and educational opportunities, and the adequacy and effectiveness of resource management.

The following matrix describes the first two dimensions:

	1. Education and learning outputs and outcomes	**2. Policy levers and contexts shaping educational outcomes**	**3. Antecedents or constraints that contextualise policy**
I. Individual participants in education and learning	**1.I.** The quality and distribution of individual educational outcomes	**2.I.** Individual attitudes, engagement, and behaviour to teaching and learning	**3.I.** Background characteristics of the individual learners and teachers
II. Instructional settings	**1.II.** The quality of instructional delivery	**2.II.** Pedagogy, learning practices and classroom climate	**3.II.** Student learning conditions and teacher working conditions
III. Providers of educational services	**1.III.** The output of educational institutions and institutional performance	**2.III.** School environment and organisation	**3.III.** Characteristics of the service providers and their communities
IV. The education system as a whole	**1.IV.** The overall performance of the education system	**2.IV.** System-wide institutional settings, resource allocations, and policies	**3.IV.** The national educational, social, economic, and demographic contexts

The following sections discuss the matrix dimensions in more detail:

Actors in education systems

The OECD indicators of education systems (INES) programme seeks to gauge the performance of national education systems as a whole, rather than to compare individual institutional or other sub-national entities. However, there is increasing recognition that many important features of the development, functioning and impact of education systems can only be assessed through an understanding of learning outcomes and their relationships to inputs and processes at the level of individuals and institutions. To account for this, the indicator framework distinguishes between a macro level, two meso-levels and a micro-level of education systems. These relate to:

- the education system as a whole;
- the educational institutions and providers of educational services;
- the instructional setting and the learning environment within the institutions; and
- the individual participants in education and learning.

To some extent, these levels correspond to the entities from which data are being collected but their importance mainly centres on the fact that many features of the education system play out quite differently at different levels of the system, which needs to be taken into account when interpreting the indicators. For example, at the level of students within a classroom, the relationship between student achievement and class size may be negative, if students in small classes benefit from improved contact with teachers. At the class or school level, however, students are often intentionally grouped such that weaker or disadvantaged students are placed in smaller classes so that they receive more individual attention. At the school level, therefore, the observed relationship between class size and student achievement is often positive (suggesting that students in larger classes perform better than students in smaller classes). At higher aggregated levels of education systems, the relationship between student achievement and class size is further confounded, *e.g.* by the socio-economic intake of schools or by factors relating to the learning culture in different countries. Past analyses which have relied on macro-level data alone have therefore sometimes led to misleading conclusions.

Outcomes, policy levers and antecedents

The second dimension in the organising framework further groups the indicators at each of the above levels:

- indicators on observed outputs of education systems, as well as indicators related to the impact of knowledge and skills for individuals, societies and economies, are grouped under the sub-heading *output and outcomes of education and learning;*
- the sub-heading *policy levers and contexts* groups activities seeking information on the policy levers or circumstances which shape the outputs and outcomes at each level; and
- these policy levers and contexts typically have *antecedents* – factors that define or constrain policy. These are represented by the sub-heading antecedents and constraints. It should be noted that the antecedents or constraints are usually specific for a given level of the education system and that antecedents at a lower level of the system may well be policy levers at a higher level. For teachers and students in a school, for example, teacher qualifications are a given constraint while, at the level of the education system, professional development of teachers is a key policy lever.

Policy issues

Each of the resulting cells in the framework can then be used to address a variety of issues from different policy perspectives. For the purpose of this framework, policy perspectives are grouped into three classes that constitute the third dimension in the organising framework for INES:

- quality of educational outcomes and educational provision;
- equality of educational outcomes and equity in educational opportunities; and
- adequacy, effectiveness and efficiency of resource management.

In addition to the dimensions mentioned above, the time perspective as an additional dimension in the framework, allows dynamic aspects in the development of education systems to be modelled also.

The indicators that are published in *Education at a Glance 2010* fit within this framework, though often they speak to more than one cell.

Most of the indicators in **Chapter A** *The output of educational institutions and the impact of learning* relate to the first column of the matrix describing outputs and outcomes of education. Even so, indicators in **Chapter A** measuring educational attainment for different generations, for instance, not only provide a measure of the output of the educational system, but also provide context for current educational policies, helping to shape polices on, for example, lifelong learning.

Chapter B *Financial and human resources invested in education* provides indicators that are either policy levers or antecedents to policy, or sometimes both. For example, expenditure per student is a key policy measure which most directly impacts on the individual learner as it acts as a constraint on the learning environment in schools and student learning conditions in the classroom.

Chapter C *Access to education, participation and progression* provides indicators that are a mixture of outcome indicators, policy levers and context indicators. Internationalisation of education and progression rates are, for instance, outcomes measures to the extent that they indicate the results of policies and practices in the classroom, school and system levels. But they can also provide contexts for establishing policy by identifying areas where policy intervention is necessary to, for instance, address issues of inequity.

Chapter D *The learning environment and organisation of schools* provides indicators on instruction time, teachers working time and teachers' salaries that not only represent policy levers which can be manipulated but also provide contexts for the quality of instruction in instructional settings and for the outcomes of learners at the individual level. It also presents data on school choice and parent voice.

The reader should note that, for the first time, *Education at a Glance* covers a significant amount of data from China, India and Indonesia (please refer to the Reader's Guide for details).

Reader's Guide

Coverage of the statistics

Although a lack of data still limits the scope of the indicators in many countries, the coverage extends, in principle, to the entire national education system (within the national territory) regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. With one exception described below, all types of students and all age groups are meant to be included: children (including students with special needs), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data.

Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject matter content similar to "regular" education studies or that the underlying programmes lead to potential qualifications similar to corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

Country coverage

This publication features data on education from the 31 OECD member countries, five non-OECD member countries that participate in the OECD Indicators of Education Systems Programme (INES), namely Brazil, Estonia, Israel, the Russian Federation and Slovenia, and three non-OECD member countries that participate in the OECD's Enhanced Engagement process, namely China, India and Indonesia.

When this publication went to print, Estonia, Israel and Slovenia were in the final stages of accession to the OECD but were not yet OECD members. Accordingly, the present edition does not include these three countries in the list of OECD countries and the calculation of OECD averages.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Calculation of international means

For many indicators, an OECD average is presented and for some, an OECD total.

The OECD average is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The OECD average therefore refers to an average of data values at the level of the national systems and can be used

to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country.

The OECD total is calculated as a weighted mean of the data values of all OECD countries for which data are available or can be estimated. It reflects the value for a given indicator when the OECD area is considered as a whole. This approach is taken for the purpose of comparing, for example, expenditure charts for individual countries with those of the entire OECD area for which valid data are available, with this area considered as a single entity.

Note that both the OECD average and the OECD total can be significantly affected by missing data. Given the relatively small number of countries, no statistical methods are used to compensate for this. In cases where a category is not applicable (code "a") in a country or where the data value is negligible (code "n") for the corresponding calculation, the value zero is imputed for the purpose of calculating OECD averages. In cases where both the numerator and the denominator of a ratio are not applicable (code "a") for a certain country, this country is not included in the OECD average.

For financial tables using 1995 and 2000 data, both the OECD average and OECD total are calculated for countries providing 1995, 2000 and 2007 data. This allows comparison of the OECD average and OECD total over time with no distortion due to the exclusion of certain countries in the different years.

For many indicators an "EU19" average is also presented. It is calculated as the unweighted mean of the data values of the 19 OECD countries that are members of the European Union for which data are available or can be estimated. These 19 countries are Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

Classification of levels of education

The classification of the levels of education is based on the revised International Standard Classification of Education (ISCED-97). The biggest change between the revised ISCED and the former ISCED (ISCED-76) is the introduction of a multi-dimensional classification framework, allowing for the alignment of the educational content of programmes using multiple classification criteria. ISCED is an instrument for compiling statistics on education internationally and distinguishes among six levels of education. The glossary available at *www.oecd.org/edu/eag2010* describes in detail the ISCED levels of education, and Annex 1 shows corresponding typical graduation ages of the main educational programmes by ISCED level.

Symbols for missing data

Seven symbols are employed in the tables and charts to denote missing data:

a Data is not applicable because the category does not apply.

c There are too few observations to provide reliable estimates (*i.e.* there are fewer than 3% of students for this cell or too few schools for valid inferences). However, these statistics were included in the calculation of cross-country averages.

m Data is not available.
n Magnitude is either negligible or zero.
w Data has been withdrawn at the request of the country concerned.
x Data included in another category or column of the table (*e.g.* x(2) means that data are included in column 2 of the table).
~ Average is not comparable with other levels of education.

Further resources

The website *www.oecd.org/edu/eag2010* provides a rich source of information on the methods employed for the calculation of the indicators, the interpretation of the indicators in the respective national contexts and the data sources involved. The website also provides access to the data underlying the indicators as well as to a comprehensive glossary for technical terms used in this publication.

All post-production changes to this publication are listed at *www.oecd.org/edu/eag2010*.

Education at a Glance uses the OECD's *StatLinks* service. Below each table and chart in *Education at Glance* 2010 is a URL which leads to a corresponding Excel® workbook containing the underlying data for the indicator. These URLs are stable and will remain unchanged over time. In addition, readers of the *Education at a Glance* e-book will be able to click directly on these links and the workbook will open in a separate window.

Codes used for territorial entities

These codes are used in certain charts. Country or territorial entity names are used in the text. Note that throughout the publication, the Flemish Community of Belgium and the French Community of Belgium may be referred to as "Belgium (Fl.)" and "Belgium (Fr.)" respectively.

AUS	Australia	FRA	France	POL	Poland
AUT	Austria	DEU	Germany	PRT	Portugal
BEL	Belgium	ISL	Iceland	RUS	Russian Federation
BFL	Belgium (Flemish Community)	IRL	Ireland	SCO	Scotland
BFR	Belgium (French Community)	ISR	Israel	SVK	Slovak Republic
BRA	Brazil	ITA	Italy	SVN	Slovenia
CAN	Canada	JPN	Japan	ESP	Spain
CHL	Chile	KOR	Korea	SWE	Sweden
CZE	Czech Republic	LUX	Luxembourg	CHE	Switzerland
DNK	Denmark	MEX	Mexico	TUR	Turkey
ENG	England	NLD	Netherlands	UKM	United Kingdom
EST	Estonia	NZL	New Zealand	USA	United States
FIN	Finland	NOR	Norway		

Chapter

A

The Output of Educational Institutions and the Impact of Learning

TO WHAT LEVEL HAVE ADULTS STUDIED?

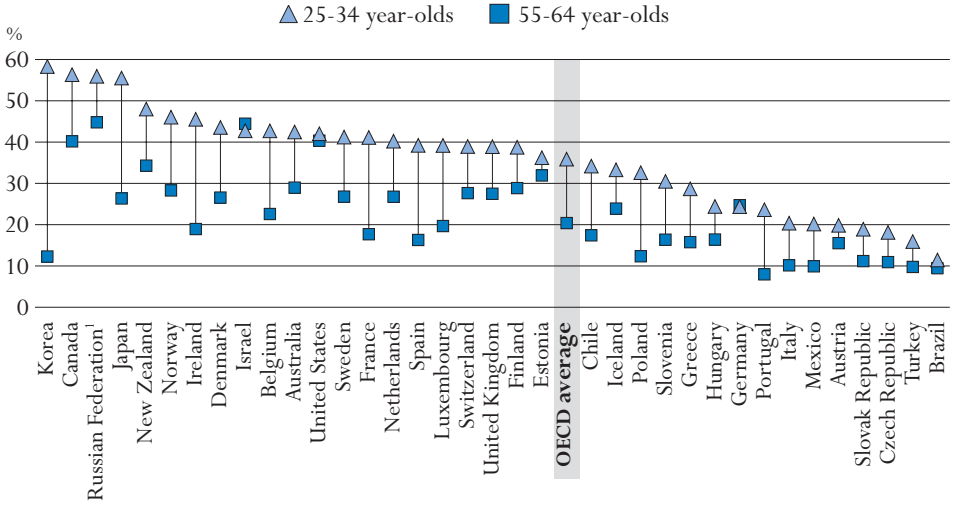
This indicator profiles the educational attainment of the adult population as captured through formal educational qualifications. As such, it provides a proxy for the knowledge and skills available to national economies and societies. To gauge the evolution of available skills, trend data on growth in the number of people with different levels of educational attainment are part of the analysis.

Key results

Chart A1.1. Population that has attained tertiary education (2008)

This chart compares the population aged 25 to 34 with tertiary education to the population aged 55 to 64 with tertiary education in 2008, in percentage, by age group.

Tertiary attainment levels have increased considerably over the past 30 years. In almost all countries, 25-34 year-olds have higher tertiary attainment levels than the generation about to leave the labour market (55-64 year-olds). On average across OECD countries, 35% of the younger cohort has completed tertiary education, compared with 20% of the oldest cohort. The expansion of the tertiary sector has put Japan and Korea in the top group together with Canada and the partner country the Russian Federation, with over 50% of the younger cohort with tertiary education.



1. Year of reference 2002.

Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education.

Source: OECD. Table A1.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310092

Other highlights of this indicator

- The big change in the educational attainment of the adult population over the past decade has been at the low and high ends of the attainment distribution. On average across OECD countries, 29% now have only primary or lower secondary levels of education, 44% have upper secondary education and 28% have a tertiary qualification.
- Upper secondary education has become the norm among younger cohorts in almost all OECD countries. On average across OECD countries, the proportion of 25-34 year-olds with at least upper secondary education is 22 percentage points higher than that of 55-64 year-olds. The change has been particularly dramatic in Belgium, Chile, Greece, Ireland, Italy, Korea, Portugal and Spain, all of which have seen an increase in upper secondary attainment of 30 percentage points or more.
- If current tertiary attainment rates among 25-34 year-olds are maintained, Ireland, Japan and Korea will increase the proportion of the total population (25-64 years old) with tertiary attainment compared to the OECD average while Austria, Germany and the partner country Brazil will fall further behind.
- With the exception of Denmark, Iceland, Mexico and Turkey, the number of individuals available to the labour market with below secondary education decreased between 1998 and 2008, and in some countries substantially so.
- Together, Japan and the United States have 48% of all tertiary-educated individuals among OECD countries owing to the size of their population and overall high tertiary attainment levels. The rapid expansion of higher education has moved Korea into fourth place (representing 5% of the total OECD 200 million people with tertiary education).

A1

Policy context

A continuously well-educated and well-trained population is essential for the social and economic well-being of countries. Education plays a key role in providing individuals with the knowledge, skills and competences needed to participate effectively in society and in the economy. It also contributes to the expansion of scientific and cultural knowledge. Educational attainment is a commonly used proxy for the stock of human capital, that is, the skills available in the population and the labour force.

The stock of human capital varies substantially among countries, depending on their industry structure and general level of economic development. Technological innovations have been a factor affecting work systems, and higher levels of education and training have in many instances been a prerequisite for the adoption of new technologies. Some countries have had the advantage of a large pool of more highly educated individuals for several decades. This first-mover advantage has likely influenced the development of high-technology and high-skills industries in these countries.

The demand for skills changes constantly. Following a decline in manual labour over previous decades, more recent declines have been in basic cognitive tasks which can now be computerised. However, recent trends also show sharp increases in demand for tasks requiring complex communication and involve interaction among individuals and groups to obtain, persuade and process information, while acknowledging implications for action. Similarly, there has been increase in demand for advanced analytical skills outside "rule-based" structures. These trends generally favour a more educated labour force and the demand for education is thus increasing at a rapid pace in many countries.

It is important not only to examine overall attainment levels but also how these have evolved over time in order to gain an idea of the current and future supply of skills in the labour market. While the current economic downturn increases the speed of change it will also increase incentives for individuals to invest in education, as worsening labour market prospects lower the opportunity costs of education, such as earnings foregone while studying.

Evidence and explanations

Attainment levels in OECD countries

On average across OECD countries, less than one-third of adults (29%) have only primary or lower secondary education, 44% have upper secondary education and 28% have a tertiary level qualification. However, countries differ widely in the distribution of educational attainment across their populations (Table A1.1a).

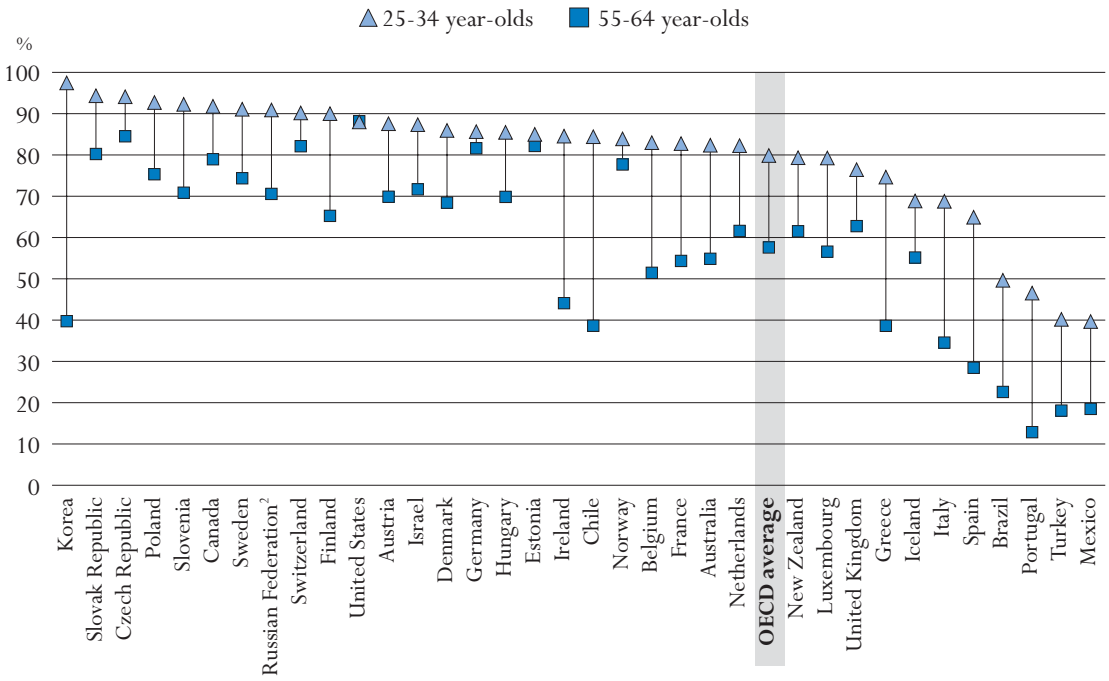
Upper secondary education

In 25 out of 30 OECD countries – as well as in the partner countries Estonia, Israel, the Russian Federation and Slovenia – 60% or more of the population aged 25 to 64 has completed at least upper secondary education. Some countries show a different profile, however. For instance, in Mexico, Portugal, Turkey and the partner country Brazil, two-thirds or more of the population aged 25 to 64 have not completed upper secondary education (Table A1.2a).

Overall, a comparison of the levels of educational attainment in younger and older age groups indicates marked progress with regard to attainment of upper secondary education, except in the United States, where there is minimal difference between age cohorts. (Chart A1.2).

Chart A1.2. Population that has attained at least upper secondary education[1] (2008)

Percentage, by age group



1. Excluding ISCED 3C short programmes.
2. Year of reference 2002.

Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained at least upper secondary education.

Source: OECD. Table A1.2a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310092

On average across OECD countries, the proportion of 25-34 year-olds with at least upper secondary education is 22 percentage points higher than that of 55-64 year-olds. The change has been particularly dramatic in Belgium, Chile, Greece, Ireland, Italy, Korea, Portugal and Spain, all of which have seen an increase in upper secondary attainment of 30 percentage points or more.

In countries in which the adult population generally has a high level of educational attainment, differences among age groups are less pronounced (Table A1.2a). In the 12 OECD countries in which 80% or more of 25-64 year-olds have at least upper secondary education, the difference in the proportion of 25-34 year-olds and 55-64 year-olds with at least an upper secondary level is, on average, 12 percentage points.

In Germany and the United States, the proportion of the population with upper secondary education or more is almost the same for all age groups. For countries with more room for growth, the average gain in attainment between these age groups is typically large, but situations differ widely. In Norway, the difference between 25-34 year-olds and 55-64 year-olds is 6 percentage points; in Korea it is 57 percentage points.

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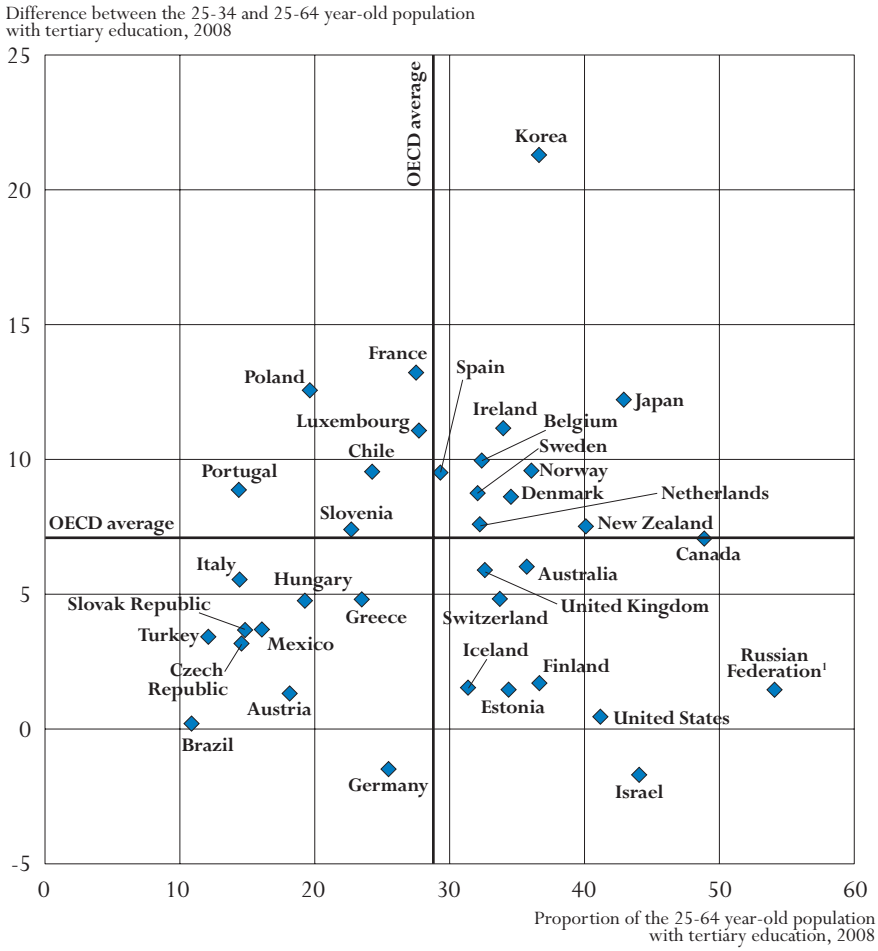
Tertiary education

In almost all countries, 25-34 year-olds have higher tertiary attainment levels than the generation about to leave the labour market (55-64 year-olds). On average across OECD countries, 35% of the younger cohort has completed tertiary education, compared with 20% of the oldest cohort, while the average for the total population of 25-64 year-olds is 28%. The expansion of tertiary education differs substantially among countries. In Ireland, Japan and Korea there is a difference of 25 percentage points or more in tertiary attainment of the oldest and youngest age cohorts (Table A1.3a).

Chart A1.3 provides an overview of the influence that tertiary education among 25-34 year-olds will have on overall tertiary attainment (25-64 year-olds) if current levels among young individuals are maintained. The vertical axis shows the percentage change that attainment of the younger cohort will make to attainment in the total population and the horizontal axis shows current levels of tertiary attainment in countries.

Chart A1.3. Proportion of population with tertiary education and potential growth (2008)



1. Year of reference 2002.

Source: OECD. Table A1.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

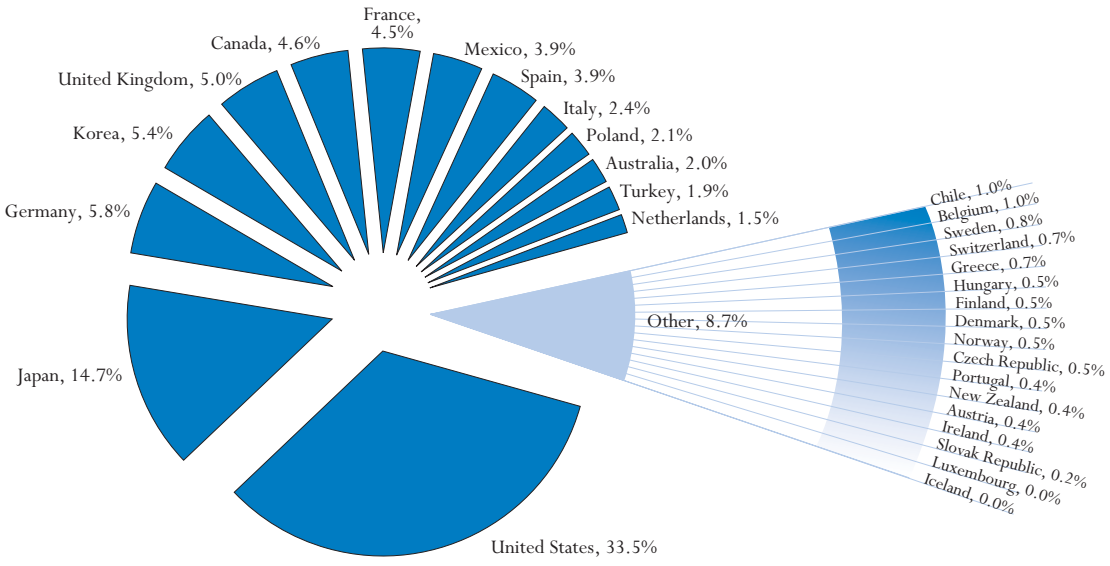
StatLink http://dx.doi.org/10.1787/888932310092

The upper right quadrant comprises countries which have high tertiary attainment levels and may increase their tertiary attainment advantage over time. Ireland, Japan and Korea belong to this category. The lower right corner of the chart includes countries with high attainment but which may be met by other OECD countries in the longer term. Finland, Iceland, the United States and the partner countries Estonia, Israel and the Russian Federation will find that an increasing number of countries pass or move closer to their levels of tertiary attainment in the coming years.

Some countries have lower tertiary attainment levels than the OECD average but will move towards a less disadvantaged position. Given the current attainment rates among 25-34 year-olds, France, Luxembourg and Poland will move above the OECD average on tertiary attainment in the coming years. Countries that will fall further behind are in the lower left corner of the chart; this disadvantage is particularly marked in Austria, Germany and the partner country Brazil. Tertiary graduation rates provide more recent data on potential evolution of attainment in the population (see Indicator A3).

Chart A1.4 presents shares of countries among the almost 200 million OECD 25-64 year-old population with tertiary education. While there have been significant changes in attainment levels in many OECD countries in the past decades, large countries with high educational attainment still dominate the landscape.

Chart A1.4. Countries' share in the total OECD 25-64 year-old population with tertiary education, in percentage (2008)



Source: OECD. Table A1.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310092

Together, Japan and the United States have 48% of all tertiary-educated individuals owing to the size of their populations and overall high tertiary attainment. Both countries enjoyed high tertiary attainment levels before most other countries had started to expand their higher education systems. The only countries with attainment levels at or above 40% among the 45-54 year-old population

are Canada, Japan and the United States (Table A1.3a). The high educational level of the work force at an early date not only affects overall attainment levels, it also gave these countries a head start in many high-skill areas. This first-mover advantage is likely to have been particularly important for innovations and adaptation of new technologies.

However, the expansion of tertiary education in many countries has narrowed their advantage in terms both of overall attainment levels and the sheer number of individuals with tertiary education. The rapid expansion of higher education has moved Korea into fourth place with 5% of the total OECD share of tertiary-educated individuals, after Germany with 6%, Japan with 15% and the United States with 33.5%. Canada, France and the United Kingdom each have 5% of tertiary-educated individuals, followed by Mexico and Spain.

Trends in attainment rates in OECD countries

Measurements of improvements in attainment levels across age cohorts provide a rough picture of the evolution of human capital in different countries. Trends in attainment levels provide a more nuanced picture, enabling examination of how attainment levels have evolved over time. Trends will in some circumstances reveal slight differences from the analysis of attainment levels by age cohorts, because attainment levels are not evenly distributed within an age cohort.

Attainment levels have also risen because 25-64 year-old adults have acquired higher qualifications after completing initial education. Furthermore, in some countries immigration can have a big impact on attainment levels over time.

Trends in attainment gains over time thus provide a complementary picture of the changes in human capital available to the economy and society. Table A1.4 presents trends in the educational attainment of the adult population (25-64 year-olds). In 1998, on average across OECD countries, 37% of the population had not completed upper secondary education, 42% had completed upper secondary and post-secondary non-tertiary education, and another 21% had completed tertiary education.

Over the past decade, these figures have changed quite dramatically owing to efforts to raise the educational level of the population. The proportion of the adult population with below upper secondary education has fallen to 29%, the proportion with tertiary attainment has risen to 28%, while the proportion with upper secondary and post-secondary non-tertiary education has remained almost unchanged at 44%.

The principal changes in the educational attainment of the adult population over the past decade have thus been at the low and high ends of the skill distribution. Average annual growth in tertiary attainment levels has exceeded 5% in Italy, Poland and Portugal – countries in which overall levels of tertiary attainment were low at the beginning of the decade. The proportion of the population with below upper secondary education decreased by 5% or more per year in Hungary, Poland and the Slovak Republic. Only Spain has seen growth rates above 5% for upper secondary and post-secondary non-tertiary attainment (Table A1.4).

Trends in the total number of people with different educational attainment in OECD countries

The actual output of the education system may, in many instances, diverge quite substantially from what appears in measures of attainment levels because of demographic changes (population growth).

Table A1.5 provides estimates of the average annual growth of the total number of individuals in the adult population at different educational levels between 1998 and 2008.

The number of individuals with tertiary education available to the labour market has increased by an average of 4.6% per year across OECD countries. Some of this growth is due to the retirement of individuals in older age cohorts with lower levels of tertiary attainment. Nevertheless, the total investment in human capital and the overall change in the supply of highly educated individuals during this period is impressive.

Average annual growth of the adult population with upper secondary and post-secondary non-tertiary education has been substantially lower than that of the adult population with tertiary education. This is because many individuals had already achieved this level of education. The total number of individuals who have not completed upper secondary education has decreased by an average of 2.1% per year during this period. With the exception of Denmark, Iceland, Mexico and Turkey, the number of individuals with below secondary education available to the labour market decreased between 1998 and 2008, and in some countries substantially so.

This indicator describes the supply side by examining educational attainment across OECD countries. The demand side is explored in labour-market indicators on employment and unemployment (see Indicator A6), earnings (see Indicator A7), incentives to invest in education (see Indicator A8), and transition from school to work (see Indicator C3).

Definitions and methodologies

Data on population and educational attainment are taken from OECD and Eurostat databases, which are compiled from National Labour Force Surveys. See Annex 3 (*www.oecd.org/edu/eag2010*) for national sources.

Attainment profiles are based on the percentage of the population aged 25 to 64 that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education. See Annex 3 (*www.oecd.org/edu/eag2010*) for a description of the mapping of ISCED-97 education programmes and attainment levels for each country.

Successful completion of upper secondary education means the achievement of upper secondary programmes type A, B or C, which are of a similar length; completion of type C programmes (labour market destination) of significantly shorter duration are not classified as upper secondary attainment.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310092

- ***Table A1.1b. Educational attainment: Male population (2008)***
- ***Table A1.1c. Educational attainment: Female population (2008)***
- ***Table A1.2b. Population of males with at least upper secondary education (2008)***
- ***Table A1.2c. Population of females with at least upper secondary education (2008)***
- ***Table A1.3b. Male population with tertiary education (2008)***
- ***Table A1.3c. Female population with tertiary education (2008)***

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Table A1.1a.

Educational attainment: Adult population (2008)

Distribution of the 25-64 year-old population, by highest level of education attained

		Pre-primary and primary education	Lower secondary education	ISCED 3C (short programme)	Upper secondary education: ISCED 3C (long programme)/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A	Tertiary education: Advanced research programmes	All levels of education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	8	22	x(5)	x(5)	30	4	10	26	x(8)	100
	Austria	x(2)	17	2	48	6	10	7	11	x(8)	100
	Belgium	13	17	a	11	24	2	16	16	1	100
	Canada	4	9	a	x(5)	26	12	24	25	x(8)	100
	Chile	29	3	x(5)	12	32	a	8	16	x(8)	100
	Czech Republic	n	9	a	40	36	a	x(8)	14	x(8)	100
	Denmark	n	23	2	37	6	n	7	25	1	100
	Finland	9	10	a	a	44	1	15	20	1	100
	France	12	18	a	31	12	n	11	16	1	100
	Germany	3	11	a	50	3	7	9	15	1	100
	Greece	25	11	3	3	26	8	7	16	n	100
	Hungary	2	19	a	30	28	2	n	18	n	100
	Iceland	2	28	6	12	11	10	3	27	1	100
	Ireland	14	17	n	x(5)	25	11	12	22	n	100
	Italy	14	32	1	7	31	1	n	14	n	100
	Japan	x(5)	x(5)	x(5)	x(5)	57	a	19	24	x(8)	100
	Korea	10	11	a	x(5)	43	a	11	26	x(8)	100
	Luxembourg	17	9	7	17	20	3	8	18	2	100
	Mexico	46	21	a	6	11	a	1	15	x(8)	100
	Netherlands	7	20	x(4)	16	22	3	2	29	1	100
	New Zealand	x(2)	21	7	12	9	11	15	25	x(8)	100
	Norway	n	19	a	31	11	3	2	33	1	100
	Poland	x(2)	13	a	33	31	4	x(8)	20	x(8)	100
	Portugal	54	18	x(5)	x(5)	13	1	x(8)	13	1	100
	Slovak Republic	1	9	x(4)	35	40	x(5)	1	14	n	100
	Spain	21	27	a	8	14	n	9	19	1	100
	Sweden	5	10	a	x(5)	47	6	9	23	x(8)	100
	Switzerland	3	8	1	45	6	3	10	20	3	100
	Turkey	59	11	a	8	10	a	x(8)	12	x(8)	100
	United Kingdom	n	13	17	30	7	n	9	23	1	100
	United States	4	7	x(5)	x(5)	48	x(5)	10	30	1	100
		Below upper secondary education			*Upper secondary level of education*			*Tertiary level of education*			
	OECD average	*29*			*44*			*28*			
	EU19 average	*28*			*47*			*25*			
Partner countries	Brazil	46	15	x(5)	x(5)	28	a	x(8)	11	x(8)	100
	Estonia	1	11	a	4	44	6	12	22	n	100
	Israel	11	8	a	10	28	a	15	28	1	100
	Russian Federation[1]	3	8	x(4)	16	18	x(4)	34	20	n	100
	Slovenia	2	16	a	28	32	a	11	10	2	100

Note: Due to discrepancies in the data, averages have not been calculated for each column individually.
1. Year of reference 2002.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310092

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Table A1.2a.

Population with at least upper secondary education[1] (2008)

Percentage, by age group

		Age group				
		25-64	25-34	35-44	45-54	55-64
		(1)	(2)	(3)	(4)	(5)
OECD countries	Australia	70	82	73	66	55
	Austria	81	88	85	79	71
	Belgium	70	83	77	64	52
	Canada	87	92	90	86	80
	Chile	68	85	74	65	39
	Czech Republic	91	94	94	90	85
	Denmark	75	85	80	69	63
	Finland	81	90	88	82	66
	France	70	83	77	64	55
	Germany	85	86	87	86	82
	Greece	61	75	69	56	39
	Hungary	80	86	83	78	70
	Iceland	64	69	68	61	56
	Ireland	69	85	75	62	45
	Italy	53	69	57	49	35
	Korea	79	98	93	68	40
	Luxembourg	68	79	70	63	57
	Mexico	34	40	36	30	19
	Netherlands	73	82	77	71	62
	New Zealand	72	79	74	71	62
	Norway	81	84	82	78	78
	Poland	87	93	91	87	76
	Portugal	28	47	29	20	13
	Slovak Republic	90	94	93	88	81
	Spain	51	65	57	45	29
	Sweden	85	91	90	84	75
	Switzerland	87	90	88	85	83
	Turkey	30	40	27	24	19
	United Kingdom	70	77	70	67	63
	United States	89	88	89	89	89
	OECD average	*71*	*80*	*75*	*68*	*58*
	EU19 average	*72*	*82*	*76*	*69*	*59*
Partner countries	Brazil	39	50	40	33	23
	Estonia	88	85	93	92	83
	Israel	81	87	84	77	72
	Russian Federation[2]	88	91	94	89	71
	Slovenia	82	92	85	78	71

1. Excluding ISCED 3C short programmes.
2. Year of reference 2002.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310092

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Table A1.3a.

Population with tertiary education (2008)

Percentage of the population that has attained tertiary-type B education or tertiary-type A and advanced research programmes, by age group
Column 16 refers to absolute numbers in thousands.

		Tertiary-type B education					Tertiary-type A and advanced research programmes					Total tertiary					
		25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64 in thousands
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD countries	Australia	10	10	11	11	10	26	32	27	23	19	36	42	38	33	28	3 913
	Austria	7	6	8	8	7	11	13	12	9	8	18	19	19	18	15	828
	Belgium	16	20	17	15	12	16	23	18	14	10	32	42	35	29	22	1 866
	Canada	24	26	26	23	19	25	30	28	21	21	49	56	54	44	40	8 922
	Chile	8	11	11	7	3	16	22	14	13	14	24	34	24	20	17	1 964
	Czech Republic	x(11)	x(12)	x(13)	x(14)	x(15)	14	18	14	15	11	14	18	14	15	11	880
	Denmark	7	8	8	7	5	27	35	29	25	21	34	43	37	32	26	998
	Finland	15	5	20	19	15	22	33	24	17	14	37	38	44	37	29	1 052
	France	11	17	13	9	6	16	24	18	12	12	27	41	31	20	17	8 814
	Germany	9	6	9	10	9	16	17	17	16	15	25	24	27	26	24	11 315
	Greece	7	10	8	5	3	17	19	19	16	13	23	28	27	22	15	1 425
	Hungary	n	1	n	n	n	19	23	19	17	16	19	24	19	17	16	1 069
	Iceland	3	2	4	4	3	28	31	32	26	21	31	33	36	30	24	51
	Ireland	12	14	13	10	7	22	31	23	17	12	34	45	37	27	19	792
	Italy	n	n	1	n	n	14	20	15	12	10	14	20	15	12	10	4 754
	Japan	19	24	23	18	10	24	31	26	25	16	43	55	48	43	26	28 790
	Korea	11	23	11	4	1	26	35	32	19	11	37	58	43	23	12	10 470
	Luxembourg	8	11	7	7	6	20	28	22	15	13	28	39	28	22	19	73
	Mexico	1	1	1	1	1	15	19	15	14	9	16	20	16	15	10	7 675
	Netherlands	2	2	3	2	2	30	38	30	28	24	32	40	33	31	26	2 871
	New Zealand	15	14	14	16	16	25	34	26	22	18	40	48	40	38	34	839
	Norway	2	2	2	3	3	34	44	36	29	25	36	46	38	32	28	894
	Poland	x(11)	x(12)	x(13)	x(14)	x(15)	20	32	19	13	12	20	32	19	13	12	4 082
	Portugal	x(11)	x(12)	x(13)	x(14)	x(15)	14	23	15	10	8	14	23	15	10	8	847
	Slovak Republic	1	1	1	1	1	14	18	13	13	10	15	18	14	14	11	451
	Spain	9	13	11	7	4	20	26	22	17	12	29	39	33	24	16	7 663
	Sweden	9	8	8	9	9	23	32	24	19	18	32	41	33	28	26	1 541
	Switzerland	10	10	11	11	9	23	29	25	21	18	34	38	36	31	27	1 433
	Turkey	x(11)	x(12)	x(13)	x(14)	x(15)	12	15	11	10	9	12	15	11	10	9	3 754
	United Kingdom	9	8	10	10	9	24	31	23	20	19	33	38	33	30	27	9 844
	United States	10	9	10	10	9	32	32	33	30	31	41	42	43	40	40	65 569
	OECD average	*9*	*10*	*10*	*9*	*7*	*21*	*27*	*22*	*18*	*15*	*28*	*35*	*29*	*25*	*20*	
	OECD total (in thousands)																*195 438*
	EU19 average	*9*	*9*	*9*	*9*	*7*	*20*	*26*	*21*	*17*	*14*	*27*	*34*	*26*	*22*	*18*	
Partner countries	Brazil	x(11)	x(12)	x(13)	x(14)	x(15)	11	11	12	11	9	11	11	12	11	9	
	Estonia	12	12	12	12	11	22	23	23	22	21	34	36	35	35	32	
	Israel	15	13	16	16	17	29	29	30	28	28	44	42	46	44	44	
	Russian Federation[1]	33	34	37	34	26	21	21	21	20	19	54	55	58	54	44	
	Slovenia	11	12	11	11	9	12	18	12	9	7	23	30	24	20	16	

1. Year of reference 2002.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310092

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Table A1.4.

Trends in educational attainment: 25-64 year-old population (1997-2008)

Percentage, by educational level

OECD countries		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2008-1998 Average annual growth rate in the proportion
Australia	Below upper secondary	47	44	43	41	41	39	38	36	35	33	32	30	-3.7
	Upper secondary and post-secondary non-tertiary	29	31	31	31	30	30	31	33	33	34	34	34	1.1
	Tertiary education	24	25	27	27	29	31	31	31	32	33	34	36	3.4
Austria	Below upper secondary	26	26	25	24	23	22	21	20	19	20	20	19	-3.0
	Upper secondary and post-secondary non-tertiary	63	61	61	62	63	64	64	62	63	63	63	63	0.4
	Tertiary education	11	14	14	14	14	15	15	18	18	18	18	18	2.8
Belgium	Below upper secondary	45	43	43	41	41	39	38	36	34	33	32	30	-3.5
	Upper secondary and post-secondary non-tertiary	30	31	31	31	32	33	33	34	35	35	36	37	1.7
	Tertiary education	25	25	27	27	28	28	29	30	31	32	32	32	2.5
Canada	Below upper secondary	22	21	20	19	18	17	16	16	15	14	13	13	-4.9
	Upper secondary and post-secondary non-tertiary	40	40	40	41	40	40	40	40	39	39	38	38	-0.6
	Tertiary education	37	38	39	40	42	43	44	45	46	47	48	49	2.5
Chile	Below upper secondary	m	m	m	m	m	m	m	m	m	m	32	32	
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	47	46	
	Tertiary education	m	m	m	m	m	m	m	m	m	m	21	22	
Czech Republic	Below upper secondary	15	15	14	14	14	12	14	11	10	10	9	9	-4.7
	Upper secondary and post-secondary non-tertiary	74	75	75	75	75	76	74	77	77	77	77	76	0.2
	Tertiary education	11	10	11	11	11	12	12	12	13	14	14	14	3.4
Denmark	Below upper secondary	m	21	20	21	19	19	19	19	19	18	25	22	-1.9
	Upper secondary and post-secondary non-tertiary	m	53	53	52	52	52	49	48	47	47	43	43	-2.1
	Tertiary education	m	25	27	26	28	30	32	33	34	35	32	34	3.1
Finland	Below upper secondary	32	31	28	27	26	25	24	22	21	20	19	19	-4.8
	Upper secondary and post-secondary non-tertiary	39	39	40	41	42	42	43	43	44	44	44	44	1.4
	Tertiary education	29	30	31	32	32	33	33	34	35	35	36	37	2.0
France	Below upper secondary	41	39	38	37	36	35	35	34	33	33	31	30	-2.6
	Upper secondary and post-secondary non-tertiary	39	40	40	41	41	41	41	41	41	41	42	43	0.6
	Tertiary education	20	21	21	22	23	24	24	24	25	26	27	27	2.9
Germany	Below upper secondary	17	16	19	18	17	17	17	16	17	17	16	15	-1.0
	Upper secondary and post-secondary non-tertiary	61	61	58	58	59	60	59	59	59	59	60	60	-0.1
	Tertiary education	23	23	23	23	23	23	24	25	25	24	24	25	1.0
Greece	Below upper secondary	56	54	52	51	50	48	47	44	43	41	40	39	-3.2
	Upper secondary and post-secondary non-tertiary	29	29	30	32	32	33	34	35	36	37	37	38	2.5
	Tertiary education	16	17	17	18	18	19	19	21	21	22	23	23	3.4
Hungary	Below upper secondary	37	37	33	31	30	29	26	25	24	22	21	20	-5.8
	Upper secondary and post-secondary non-tertiary	51	50	54	55	56	57	59	59	59	60	61	61	1.9
	Tertiary education	12	13	14	14	14	14	15	17	17	18	18	19	3.8
Iceland	Below upper secondary	44	45	44	45	43	41	40	39	37	37	36	36	-2.2
	Upper secondary and post-secondary non-tertiary	35	34	34	32	32	33	31	32	32	34	34	33	-0.5
	Tertiary education	21	21	22	23	25	26	29	29	31	30	30	31	4.1
Ireland	Below upper secondary	50	49	45	54	45	40	38	37	35	34	32	31	-4.6
	Upper secondary and post-secondary non-tertiary	27	30	35	28	32	35	35	35	35	35	35	36	1.6
	Tertiary education	23	21	20	19	24	25	26	28	29	31	32	34	4.9

Note: See Annex 3 for breaks in time series.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310092

Table A1.4. *(continued – 1)*

Trends in educational attainment: 25-64 year-old population (1997-2008)

Percentage, by educational level

			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2008-1998 Average annual growth rate in the proportion
OECD countries	**Italy**	Below upper secondary	m	59	58	58	57	56	52	51	50	49	48	47	-2.4
		Upper secondary and post-secondary non-tertiary	m	32	33	33	33	34	38	37	38	38	39	39	1.9
		Tertiary education	m	9	9	9	10	10	10	12	12	13	14	14	5.3
	Japan	Below upper secondary	20	20	19	17	17	m	m	m	m	m	m	m	
		Upper secondary and post-secondary non-tertiary	49	49	49	49	49	63	63	61	60	60	59	57	1.5
		Tertiary education	31	31	32	34	34	37	37	39	40	40	41	43	3.4
	Korea	Below upper secondary	38	34	33	32	30	29	27	26	24	23	22	21	-4.7
		Upper secondary and post-secondary non-tertiary	42	44	44	44	45	45	44	44	44	44	43	43	-0.3
		Tertiary education	20	22	23	24	25	26	29	30	32	33	35	37	5.0
	Luxembourg	Below upper secondary	m	m	44	44	47	38	41	37	34	34	34	32	-3.1
		Upper secondary and post-secondary non-tertiary	m	m	38	38	35	43	45	40	39	42	39	40	0.7
		Tertiary education	m	m	18	18	18	19	14	24	27	24	27	28	4.2
	Mexico	Below upper secondary	72	72	73	71	70	70	70	69	66	65	67	66	-0.8
		Upper secondary and post-secondary non-tertiary	15	15	14	14	15	15	14	15	20	21	17	18	1.9
		Tertiary education	13	13	13	15	15	15	16	17	13	14	16	16	1.8
	Netherlands	Below upper secondary	m	36	45	35	35	32	31	29	28	28	27	27	-2.9
		Upper secondary and post-secondary non-tertiary	m	40	32	41	42	43	42	41	42	42	42	41	0.3
		Tertiary education	m	24	23	23	23	25	28	30	30	30	31	32	2.9
	New Zealand	Below upper secondary	40	39	38	37	36	34	33	33	32	31	29	28	-3.2
		Upper secondary and post-secondary non-tertiary	33	34	33	34	36	35	35	32	29	31	30	32	-0.5
		Tertiary education	27	28	28	29	29	30	32	35	39	38	41	40	3.8
	Norway	Below upper secondary	17	15	15	15	14	14	13	12	23	21	21	19	-1.6
		Upper secondary and post-secondary non-tertiary	57	57	57	57	55	55	56	56	45	46	45	45	0.0
		Tertiary education	26	27	28	28	30	31	31	32	33	33	34	36	1.0
	Poland	Below upper secondary	23	22	22	20	19	19	17	16	15	14	14	13	-5.1
		Upper secondary and post-secondary non-tertiary	67	67	67	69	69	69	68	68	68	68	68	68	0.0
		Tertiary education	10	11	11	11	12	13	14	16	17	18	19	20	6.1
	Portugal	Below upper secondary	m	82	81	81	80	79	77	75	74	72	73	72	-1.3
		Upper secondary and post-secondary non-tertiary	m	10	10	11	11	11	12	13	14	14	14	14	3.9
		Tertiary education	m	8	9	9	9	9	11	13	13	13	14	14	5.6
	Slovak Republic	Below upper secondary	21	20	18	16	15	14	13	13	12	11	11	10	-6.5
		Upper secondary and post-secondary non-tertiary	68	70	72	73	74	75	75	74	74	74	75	75	0.7
		Tertiary education	10	10	10	10	11	11	12	13	14	15	14	15	3.7
	Spain	Below upper secondary	69	67	65	62	60	59	57	55	51	50	49	49	-3.1
		Upper secondary and post-secondary non-tertiary	13	13	14	16	16	17	18	19	21	21	22	22	5.2
		Tertiary education	19	20	21	23	24	24	25	26	28	28	29	29	4.0
	Sweden	Below upper secondary	25	24	23	22	19	18	18	17	16	16	15	15	-4.6
		Upper secondary and post-secondary non-tertiary	48	48	48	47	49	49	49	48	54	54	53	53	1.0
		Tertiary education	28	28	29	30	32	33	33	35	30	31	31	32	1.3
	Switzerland	Below upper secondary	16	16	16	16	15	15	15	15	15	15	14	13	-2.1
		Upper secondary and post-secondary non-tertiary	61	61	60	60	59	60	58	57	56	56	55	53	-1.3
		Tertiary education	22	23	24	24	25	25	27	28	29	30	31	34	3.9

Note: See Annex 3 for breaks in time series.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table A1.4. *(continued – 2)*

Trends in educational attainment: 25-64 year-old population (1997-2008)

Percentage, by educational level

			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2008-1998 Average annual growth rate in the proportion
OECD countries	**Turkey**	Below upper secondary	79	78	78	77	76	75	74	74	73	72	70	70	-1.1
		Upper secondary and post-secondary non-tertiary	13	14	14	15	15	16	17	17	18	18	18	18	2.4
		Tertiary education	8	7	8	8	8	9	10	9	10	10	11	12	4.9
	United Kingdom	Below upper secondary	41	40	38	37	37	36	35	34	33	32	32	30	-2.7
		Upper secondary and post-secondary non-tertiary	37	36	37	37	37	37	37	37	37	38	37	37	0.2
		Tertiary education	23	24	25	26	26	27	28	29	30	31	32	33	3.2
	United States	Below upper secondary	14	14	13	13	12	13	12	12	12	12	12	11	-1.8
		Upper secondary and post-secondary non-tertiary	52	52	51	51	50	49	49	49	49	48	48	48	-0.8
		Tertiary education	34	35	36	36	37	38	38	39	39	39	40	41	1.7
	OECD average	***Below upper secondary***	*36*	*37*	*37*	*36*	*35*	*34*	*33*	*32*	*31*	*30*	*30*	*29*	*-3.2*
		Upper secondary and post-secondary non-tertiary	*43*	*42*	*42*	*42*	*43*	*44*	*44*	*44*	*44*	*44*	*44*	*44*	*0.8*
		Tertiary education	*21*	*21*	*21*	*22*	*23*	*23*	*24*	*26*	*26*	*27*	*27*	*28*	*3.4*
	EU19 average	***Below upper secondary***	*37*	*39*	*39*	*38*	*37*	*35*	*34*	*33*	*32*	*31*	*31*	*30*	*-3.1*
		Upper secondary and post-secondary non-tertiary	*43*	*42*	*42*	*42*	*43*	*44*	*44*	*44*	*44*	*45*	*44*	*45*	*1.3*
		Tertiary education	*21*	*20*	*21*	*21*	*22*	*22*	*23*	*24*	*25*	*25*	*25*	*26*	*3.2*
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	m	63	61	
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	27	28	
		Tertiary education	m	m	m	m	m	m	m	m	m	m	10	11	
	Estonia	Below upper secondary	m	m	m	m	m	12	12	11	11	12	11	12	
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	57	58	57	56	55	56	54	
		Tertiary education	m	m	m	m	m	30	31	31	33	33	33	34	
	Israel	Below upper secondary	m	m	m	m	m	20	18	21	21	20	20	19	
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	38	39	34	33	34	37	37	
		Tertiary education	m	m	m	m	m	42	43	45	46	46	44	44	
	Slovenia	Below upper secondary	m	m	m	m	m	23	22	20	20	18	18	18	
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	62	60	61	60	60	60	59	
		Tertiary education	m	m	m	m	m	15	18	19	20	21	22	23	

Note: See Annex 3 for breaks in time series.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table A1.5.

Annual average growth in the 25-64 year-old population between 1998 and 2008

Percentage, by level of education

	Below upper secondary	Upper secondary and post-secondary non-tertiary	Tertiary education	All levels of education
	(1)	(2)	(3)	(4)
Australia	-2.5	2.3	4.7	1.2
Austria	-2.6	0.9	3.3	0.5
Belgium	-2.9	2.3	3.1	0.6
Canada	-3.6	0.7	3.8	1.3
Czech Republic	-3.6	1.3	4.5	1.1
Denmark	0.5	-2.0	3.2	0.3
Finland	-4.5	1.7	2.3	0.3
France	-2.0	1.2	3.6	0.6
Germany	-1.1	-0.2	0.9	-0.5
Greece	-2.3	3.5	4.4	1.0
Hungary	-5.2	2.5	4.5	0.6
Iceland	0.0	1.7	6.4	2.3
Ireland	-2.0	4.4	7.7	3.1
Italy	-1.9	2.5	5.8	0.5
Japan		1.2	3.1	-0.3
Korea	-3.4	1.0	6.4	1.4
Luxembourg[1]	-1.8	2.6	6.5	1.2
Mexico	1.4	4.2	4.0	2.2
Netherlands	-2.6	0.5	3.1	0.3
New Zealand	-2.2	0.5	4.9	1.3
Poland	-4.5	0.7	6.8	0.7
Portugal	-0.3	5.0	6.7	1.1
Slovak Republic	-5.4	1.9	4.9	1.2
Spain	-0.5	8.1	6.9	2.7
Sweden	-4.1	1.5	1.8	0.5
Switzerland	-1.3	-0.6	4.7	0.7
Turkey	1.4	5.1	7.6	2.6
United Kingdom	-2.3	0.7	3.6	0.4
United States	*-0.5*	*0.5*	*3.0*	*1.3*
OECD average	*-2.1*	*1.9*	*4.6*	*1.0*

OECD countries

1. Annual average growth in the 25-64 year-old population between 1999 and 2008.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310092

INDICATOR A2

HOW MANY STUDENTS FINISH SECONDARY EDUCATION AND ACCESS TERTIARY EDUCATION?

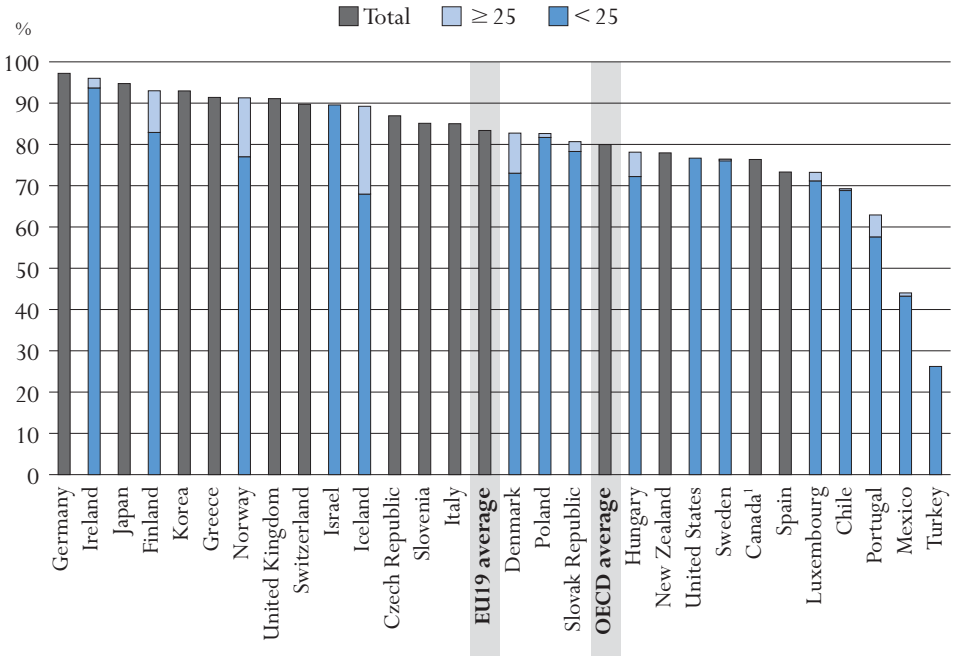
Rising knowledge demands in OECD countries have made qualifications at the upper secondary level the minimum credential for successful labour market entry. This indicator presents the current upper secondary graduate output of education systems, *i.e.* the estimated percentage of an age cohort that will follow and successfully complete upper secondary programmes. It also shows the percentage of a youth cohort that will enter different types of tertiary education during their lifetime and the impact of international students.

Key results

Chart A2.1. Upper secondary graduation rates (2008)

The chart shows the estimated percentage of a 2008 age cohort that will complete, for the first time, upper secondary education (based on current patterns of graduation); it also indicates how many young adults complete upper secondary education outside of the typical age of graduation.

On average 80% of an age cohort in 2008 is estimated to complete upper secondary education in the 26 OECD countries with available data. The proportion of students who complete the upper secondary level of education outside the typical age of graduation is high in Denmark, Finland, Iceland and Norway, where graduation rates for students older than 25 account for 10 percentage points or more.



1. Year of reference 2007.

Countries are ranked in descending order of the upper secondary graduation rates in 2008.

Source: OECD. Table A2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- In 22 of 26 OECD countries and all partner countries with available data, first-time upper secondary graduation rates exceed 70%. In Finland, Germany, Greece, Ireland, Japan, Korea, Norway, Switzerland, the United Kingdom and the partner country Israel, graduation rates equal or exceed 90%.

- Females are now more likely to complete upper secondary education than males in almost all OECD and partner countries, a reversal of the historical pattern. Today, graduation rates for females are significantly below those for males only in Switzerland and Turkey. Females are also graduating from vocational programmes more often than in the past, and consequently their graduation rates are moving closer to those of males.

- In most countries, upper secondary education is designed to prepare students to enter into tertiary-type A education. In Germany, Switzerland and the partner country Slovenia, however, students are more likely to graduate from upper secondary programmes that lead to tertiary-type B, where courses are typically shorter and focus on the development of practical, technical or occupational skills.

- Entry rates for tertiary-type A education increased by more than 20 percentage points on average in OECD countries between 1995 and 2008. In 2008, in Australia, Finland, Iceland, Korea, New Zealand, Norway, Poland, Portugal and the Slovak Republic, it is estimated that 70% or more young adults will enter tertiary-type A programmes during their lifetime.

- The proportion of students who enter tertiary-type B programmes is generally smaller than that for tertiary-type A programmes. In OECD countries for which data are available, 16% of young adults, on average, will enter tertiary-type B programmes, 56% will enter tertiary-type A programmes and 2.4% will enter advanced research programmes.

- High proportions of international students influence entry rates. In Australia, the impact of international students is so great that entry rates drop significantly when international students are excluded, causing it to lose its top position.

A2

Policy context

Upper secondary education serves as the foundation for advanced learning and training opportunities, as well as preparation for direct entry into the labour market. Although many countries allow students to leave the education system at the end of the lower secondary level, those who leave without an upper secondary qualification tend to face severe difficulties when entering the labour market in OECD countries and for staying in it (see Indicators A6 and A7).

High upper secondary graduation rates do not guarantee that an education system has adequately equipped its graduates with the basic skills and knowledge necessary to enter the labour market, because this indicator does not capture the quality of educational outcomes. However, graduation rates do give an indication of the extent to which education systems succeed in preparing students to meet the minimum requirements of the labour market.

The tertiary-level entry rate is an estimated probability that a school leaver will enter tertiary education during his/her lifetime. It provides an indication of the accessibility of tertiary education as well as the perceived value of attending tertiary programmes. It provides a partial indication of the degree to which a population is acquiring the high-level skills and knowledge valued by the labour market in today's knowledge society. High tertiary entry and participation rates help to ensure the development and maintenance of a highly educated population and labour force. In the context of crisis, it could also increase the flexibility of the labour force.

As students' awareness of the economic and social benefits of tertiary education has increased, so have rates of entry into both tertiary-type A and tertiary-type B programmes. Continued growth in participation, accompanied by a widening diversity in the backgrounds and interests of those aspiring to tertiary studies, will demand new kinds of provision. Tertiary institutions will be challenged not only to meet growing demand through expansion of places offered, but also to adapt programmes, teaching and learning to match the diverse needs of the new generation of students. Moreover, the relative popularity of the various fields of study affects the demand for courses and teaching staff.

Evidence and explanations

Graduation from upper secondary programmes

In 22 of 26 OECD countries and all partner countries with available data, first-time upper secondary graduation rates exceed 70%. In Finland, Germany, Greece, Ireland, Japan, Korea, Norway, Switzerland, the United Kingdom and the partner country Israel, graduation rates equal or exceed 90% (Chart A2.1).

Even if completing an upper secondary education programme is considered the norm for most OECD and partner countries, the proportion of students outside the typical age of graduation varies. First-time graduates are generally between 17 and 20 years old (see Table X1.1a in Annex 1). However, some countries propose second chance/adult education programmes. In the Nordic countries, for example, students can relatively easily leave the education system and re-enter it at a later date: in Denmark, Finland, Iceland and Norway, graduation rates of students over 25 years old account for at least 10 percentage points. High graduation rates do not mean that all young people have graduated from the upper secondary level when they enter the labour market; they may do so later. Decision makers have room for manoeuvre to

encourage upper secondary graduation at an earlier age and before entry to the labour market, as this level is often considered to be the minimum credential for successful labour market entry (Chart A2.1).

The balance of educational attainment between males and females in the adult population differs in most countries. In the past, females had fewer opportunities and/or incentives to obtain the same level of education as males. Females have generally been overrepresented among those not continuing to upper secondary education and consequently were underrepresented at higher levels of education. However, these gender differences are most evident in older age groups and have been significantly reduced or reversed among younger age groups (see Indicator A1).

Today, upper secondary graduation rates for females exceed those for males in 23 of 26 OECD countries and in all partner countries for which total upper secondary graduation rates can be compared by gender. The exceptions are Switzerland and Turkey where graduation rates are significantly higher for males. The gap is greatest in Denmark, Iceland, New Zealand, Norway, Portugal, Spain and the partner country Slovenia, where female graduation rates exceed those of males by 10 percentage points or more (Table A2.1).

Since 1995, the upper secondary graduation rate has increased by seven percentage points on average among OECD countries with comparable data. The highest growth occurred in Chile, Greece, Norway, Spain and Sweden (more than ten percentage points of increase between 1995 and 2008) (Table A2.2).

Although graduation from upper secondary education is becoming the norm, the upper secondary curriculum may vary depending on the type of education or occupation for which it is designed. Most upper secondary programmes in OECD and partner countries are designed primarily to prepare students for tertiary studies; their orientation may be general, pre-vocational or vocational (see Indicator C1). In 2008, it is estimated that 47% of an age cohort will be graduated from a general programmes compared to 44% from a pre-vocational or vocational programmes.

In 2008, the female graduation rate from general programmes was higher than that of males for almost all OECD and partner countries with comparable data. The average OECD graduation rate from general programmes was 53% for females and 41% for males. The higher proportion of females is especially noteworthy in Austria, the Czech Republic, Iceland, Italy, Norway, Poland and the partner countries Estonia and Slovenia, where they outnumber males by at least three to two. Only in Korea are the proportions of both sexes close to equal. Females are also, more often than in the past, graduates of vocational programmes. On average among OECD countries, the graduation rate of females from pre-vocational and vocational programmes is 43% (45% for males). This pattern may affect entry rates in tertiary-type B programmes in subsequent years (Table A2.1).

Furthermore, graduation rates at the pre-vocational/vocational level are affected by the proportion of students outside the typical age of graduation, which differs markedly from one country to another (see Table X1.1a in Annex 1). Adult students have a particularly strong effect on graduation rates in Australia, Denmark, Finland, Iceland, Norway and the partner country Brazil as they account for some 40% or more of total graduation rates. In these countries, some programmes at this level of education, *i.e.* part-time or evening programmes, may be especially designed for the adult population (Table A2.1).

A2

Transitions following upper secondary education

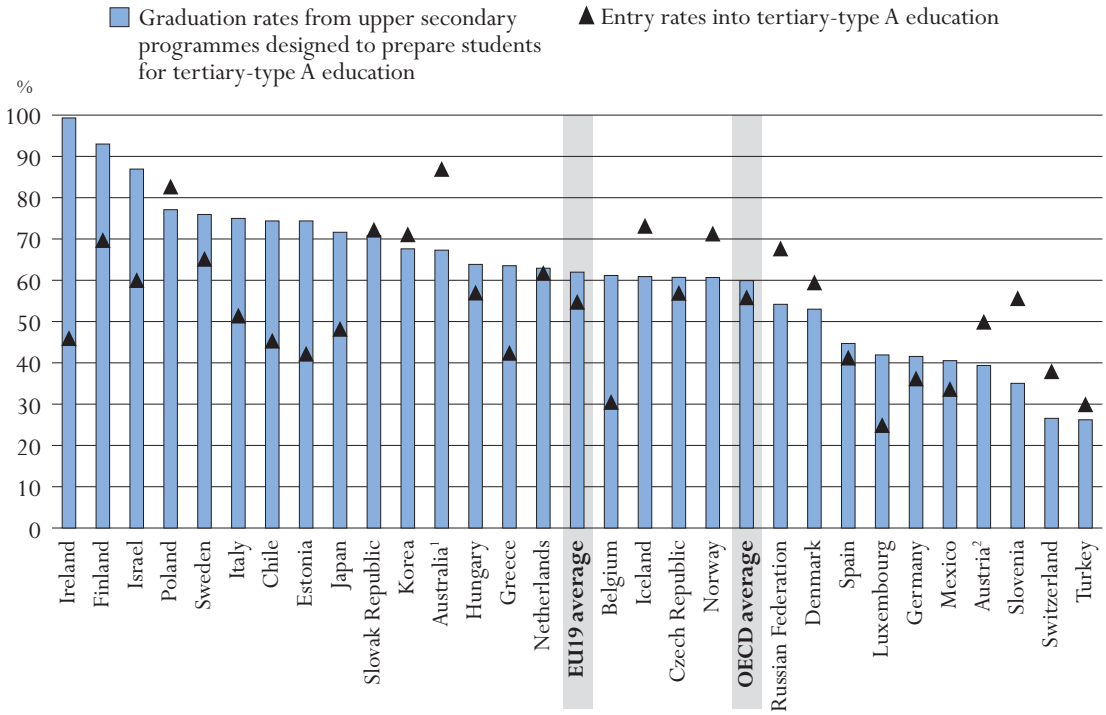
The vast majority of students who graduate from upper secondary education graduate from programmes designed to provide access to further tertiary education (ISCED 3A and 3B). Programmes to facilitate direct entry into tertiary-type A education are preferred by students in all countries except Germany, Switzerland and the partner country Slovenia, where both female and male students are more likely to graduate from upper secondary programmes leading to tertiary-type B programmes. The graduation rate for ISCED 3C (long programmes) is 16%, on average, among OECD countries (Table A2.1).

It is interesting to compare the proportion of students who graduate from programmes designed as preparation for entry into tertiary-type A programmes with the proportion who actually enter these programmes. Chart A2.2 shows significant variation in patterns among countries. For instance, in Belgium, Chile, Finland, Greece, Ireland, Italy, Japan and the partner countries Estonia and Israel, the difference between graduation rates from upper secondary programmes designed for tertiary-type A programmes and eventual entry rates into such programmes is relatively large (more than 20 percentage points). This suggests that many students who achieve qualifications designed for university-level entrance do not in fact take up university studies; however, at least in Belgium, Japan and the partner countries Estonia and Israel, such upper secondary programmes also give access to tertiary-type B programmes. In addition, Japan has "junior colleges" which offer programmes that are similar to tertiary-type A programmes, but are classified as tertiary-type B because of two or three years' shorter duration of study with more practical programmes (on the basis of ISCED 97). In Israel, the difference may be explained by the wide variation in the age of entry to university, which is due in part to the two to three years of military service students undertake before entering higher education. In Finland, the upper secondary level includes vocational education, and many graduates enter the labour market immediately after completing this level without any studies at the tertiary level. There is also a *numerus clausus* system in Finnish higher education, which means that the number of entry places is restricted. In addition, graduates from upper secondary general education may have to take a break of two to three years before getting a university or a polytechnic education study place. In Ireland, the majority of students at second level take the "Leaving Certificate Examination" (ISCED 3A). Although this is an ISCED 3A course designed for entry to tertiary education, not all of the students who take this examination intend to do so. Until recently, school leavers in Ireland had alternatives, such as participation in a strong labour market, and this also may have had an effect on the difference.

In contrast, in Australia, Austria, Iceland, Norway, Switzerland and the partner countries the Russian Federation and Slovenia, the upper secondary graduation rate is markedly lower than tertiary-type A entry rates (more than 10 percentage points). Australia, Austria, Iceland, Norway and Switzerland attract high proportions of international/foreign students; their tertiary-type A entry rates are inflated by students who completed their upper secondary education in their own country but decided to pursue their education abroad (see below and Indicator C2).

As mentioned, in Switzerland and the partner countries the Russian Federation and Slovenia, although many students are more likely to graduate from upper secondary programmes leading to tertiary-type B programmes, some may later choose to pursue university studies, thanks to pathways between the two types of tertiary programmes.

Chart A2.2. Access to tertiary-type A education for upper secondary graduates (2008)



1. Year of reference for graduation rates 2007.
2. Includes ISCED 4A programmes (*Berufsbildende Höhere Schulen*).
Countries are ranked in descending order of graduation rates from upper secondary programmes designed to prepare students for tertiary-type A education in 2008.
Source: OECD. Tables A2.1 and A2.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310111

Graduation from post-secondary non-tertiary programmes

Post-secondary non-tertiary programmes of various kinds are offered in 26 OECD countries and 4 partner countries. These programmes straddle upper secondary and post-secondary education but may be considered either as upper secondary or post-secondary programmes in particular national contexts. Although the content of these programmes may not be significantly more advanced than upper secondary programmes, post-secondary non-tertiary programmes serve to broaden the knowledge of individuals who have already gained an upper secondary qualification. Students in these programmes tend to be older than those enrolled at the upper secondary level. For more information on post-secondary non-tertiary programmes, see Table A2.5 on line or Indicator A2 in *Education at a Glance 2009*.

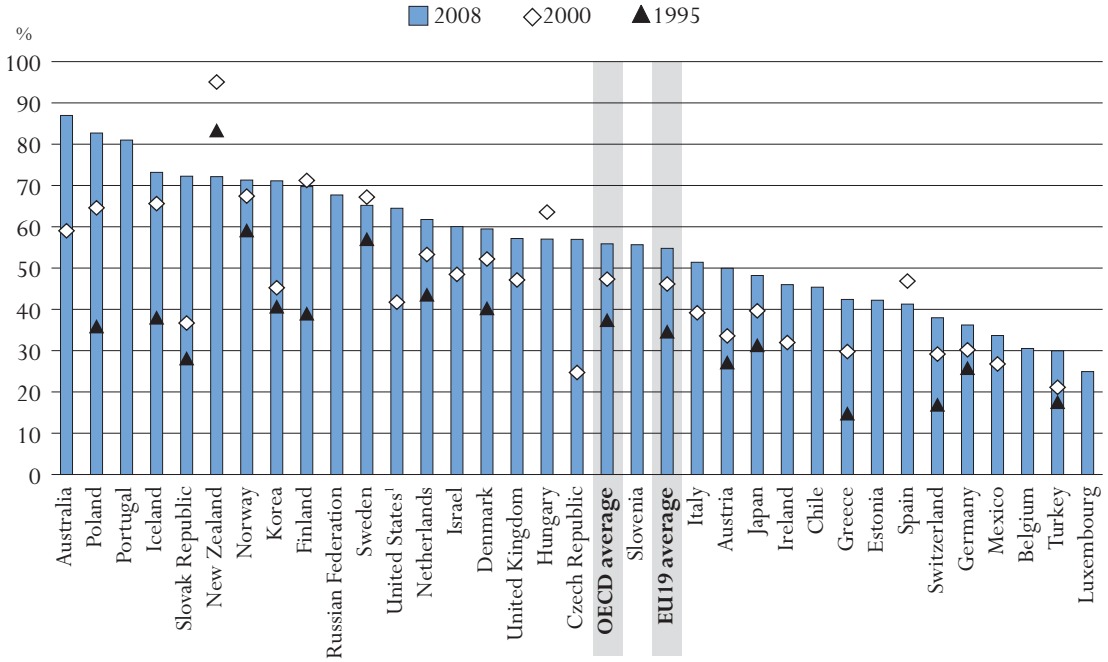
Overall access to tertiary education

Graduates from upper secondary programmes and those in the workforce who want to upgrade their skills can choose from a wide range of tertiary programmes. The higher the upper secondary graduation rate, the higher the expected entry rate into tertiary education. This indicator examines students' orientation towards tertiary education and helps to understand the choices made by students at the end of upper secondary education. Furthermore, this orientation is extremely

important and will affect not only dropout rates (see Indicator A4) but also unemployment rates (see Indicator A6) if the programmes proposed are not adjusted to labour market needs.

It is estimated that 56% of young adults in OECD countries will enter tertiary-type A programmes during their lifetime if current patterns of entry continue. In Australia, Finland, Iceland, Korea, New Zealand, Norway, Poland, Portugal and the Slovak Republic, 70% or more of young adults enter tertiary-type A programmes. Although Turkey has had a large increase in the number of students entering tertiary-type A programmes since 1995, its entry rate is only 30% and it remains, with Belgium, Luxembourg and Mexico, at the bottom of the range. The University of Luxembourg was established in 2003 to carry out three principal activities: teaching, research and valorisation, at the highest international level. Entry and graduation rates at tertiary level are low as many students continue to follow their studies outside their country (Chart A2.3 and see Indicators A3 and C2).

Chart A2.3. Entry rates into tertiary-type A education (1995, 2000 and 2008)

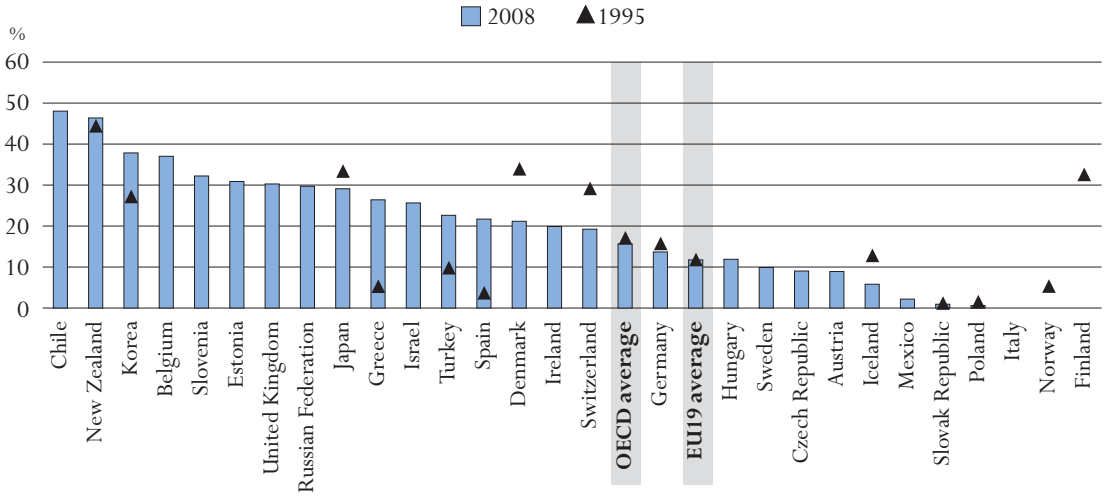


1. The entry rates for tertiary-type A programmes include the entry rates for tertiary-type B programmes.
Countries are ranked in descending order of entry rates for tertiary-type A education in 2008.
Source: OECD. Table A2.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310111

The proportion of students entering tertiary-type B programmes is generally smaller, mainly because these programmes are less developed in most OECD countries. In OECD countries for which data are available, 16% of young adults, on average, enter tertiary-type B programmes. The OECD country average differs somewhat from the EU19 country average (12%). The figures range from 3% or less in Italy, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal and the Slovak Republic to 30% or more in Belgium, Korea, the United Kingdom and

the partner countries Estonia, the Russian Federation and Slovenia, and to more than 45% in Chile and New Zealand. Although the share of tertiary-type B programmes in the Netherlands is currently very small, it is expected to increase with the introduction of a new programme of associate degrees. Finland and Norway have respectively no longer or only one tertiary-type B programmes in their education systems (Chart A2.4).

Chart A2.4. Entry rates into tertiary-type B education (1995, 2008)



Countries are ranked in descending order of entry rates for tertiary-type B education in 2008.
Source: OECD. Table A2.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310111

In Belgium and Chile, broad access to tertiary-type B programmes counterbalances comparatively low entry rates into tertiary-type A programmes. Other OECD countries, most notably the United Kingdom and the partner country Slovenia, have entry rates around the OECD average for tertiary-type A programmes and comparatively high rates of entry for tertiary-type B programmes. New Zealand stands out, with entry rates at both levels that are among the highest in OECD countries. However, its entry rates are inflated by higher entry at older ages and a greater proportion of international students (see below).

On average, in all OECD countries with comparable data, 9 percentage points more of today's young adults enter tertiary-type A programmes than in 2000 and 22 percentage points more than in 1995. Entry rates in tertiary-type A education increased by more than 20 percentage points between 2000 and 2008 in Australia, the Czech Republic, Korea and the Slovak Republic. Hungary, New Zealand and Spain are the only OECD countries that show a real decrease in entry to tertiary-type A programmes, although in Hungary and Spain, the decrease is counterbalanced by a significant increase in entry rates into tertiary-type B programmes between 2000 and 2008. In New Zealand, the rise and fall of entry rates from 2000 to 2008 mirrored the rise and fall of the number of international students over the same period.

Among OECD countries, overall net entry rates into tertiary-type B programmes between 1995 and 2008 have remained stable except in Greece, Korea, Spain and Turkey, where they have

increased. The reclassification of tertiary-type B to tertiary-type A programmes in Denmark after 2000 partly explains the changes observed in this country between 1995 and 2008 (Charts A2.3 and A2.4).

It is expected that 2.4% of today's young adults in the 22 OECD countries with comparable data will enter advanced research programmes during their lifetime. The figures range from less than 1% in Chile, Luxembourg, Mexico and Turkey to 4% or more in Austria, Greece and Switzerland (Table A2.3).

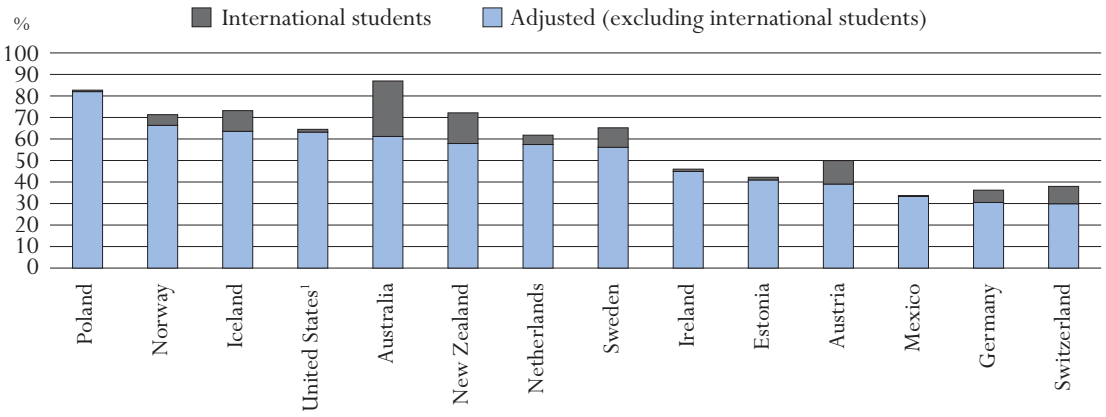
Rates of entry into tertiary education should also be considered in light of participation in post-secondary non-tertiary programmes, an important alternative to tertiary education in some OECD countries.

Impact of international students on entry rates at tertiary-type A level

By definition all international students enrolling for the first time in a country are counted as new entrants, regardless of their previous education in other countries. The reason is that countries are less likely to know about the previous education of international students. Entry rates estimate the proportion of the population that will enter tertiary-type A programmes during their lifetime. To highlight the impact of international students on entry rates at the tertiary-type A education level, both unadjusted and adjusted entry rates (*i.e.* the entry rate when international students are excluded) are presented in Chart A2.5.

Among countries for which data on international students are available, the impact of international students is significant in Australia, Austria, Iceland and New Zealand. For Australia, with adjustments of 26 percentage points, the impact is so great that its entry rates slip from the top to the fifth position. In Austria, Iceland and New Zealand, entry rates, with adjustments of 11, 10, 14 percentage points, respectively, are also affected by international students (Table A2.3).

Chart A2.5. Entry rates into tertiary-type A education: Impact of international students (2008)



1. The entry rates for tertiary-type A programmes include the entry rates for tertiary-type B programmes.
Countries are ranked in descending order of adjusted entry rates for tertiary-type A education in 2008.
Source: OECD. Table A2.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310111

The greatest impact of international students on indicators such as the entry rate and graduation rate (see Indicator A3) is naturally observed among countries with the largest proportions of international students (*e.g.* Australia and New Zealand). To improve the comparability of these indicators, which have generally a domestic focus, international students should be removed whenever possible. Unfortunately it is still difficult for many countries to collect reliable information on international students, adjustments for those countries are not always possible.

Pathways between tertiary-type A and tertiary-type B programmes

In some countries, tertiary-type A and tertiary-type B programmes are provided by different types of institutions but this is changing. It is increasingly common for universities or other institutions to offer programmes of both types; furthermore, the two levels are gradually becoming more similar in terms of curriculum, orientation and learning outcomes.

Graduates from tertiary-type B programmes often have the opportunity to gain admission to tertiary-type A programmes, either in the second or third year of the programme or even to a master's programme. This path is often subject to conditions (special examination, personal or professional past achievements, completion of a "bridging" programme, etc.) depending on the country or programme. Conversely, students who leave tertiary-type A education without having graduated can in some cases be successfully re-oriented towards tertiary-type B programmes (see Indicator A4). Countries with high entry rates into tertiary education may also be countries that have pathways between the two types of programmes.

Box A2.1. Age of new entrants into tertiary education

The age structure of new entrants into tertiary education varies among OECD countries for various reasons: the differences in the typical graduation ages from upper secondary education, the opportunity offered to students to enter the labour market before enrolling in tertiary education. People entering tertiary-type B programmes may also enter tertiary-type A programmes later in their lives. Adding tertiary-type A and B entry rates together to obtain overall tertiary-level entry rates would therefore result in overcounting.

Traditionally, students enter tertiary-type A programmes immediately after having completed upper secondary education, and this remains true in many OECD countries. For example, in Belgium, Ireland, Italy, Japan, Mexico, the Netherlands, Poland, Spain and the partner country Slovenia, 80% of all first-time entrants into tertiary-type A programmes are under 23 years of age (Table A2.3).

In other OECD and partner countries, the transition from upper secondary to tertiary education may happen at a later age, due to time spent in the labour force for example. In such cases, first-time entrants into tertiary-type A programmes typically represent a much wider age range at entry. In Denmark, Iceland, Luxembourg, Portugal, Sweden, Switzerland, and the partner country Israel, the median age of students is over 21.5 when they start tertiary education.

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The proportion of older first-time entrants into tertiary-type A programmes may reflect, among other factors, the flexibility of these programmes (*i.e.* in the United States) and their suitability to students outside the typical age cohort. It may also reflect a view of the value of work experience for higher education studies, which is characteristic of the Nordic countries and common in Australia, the Czech Republic, Hungary, New Zealand and Switzerland, where a sizeable proportion of new entrants are much older than the typical age of entry. It may also reflect some countries' mandatory military service, which postpones entry into tertiary education. For example, the partner country Israel, with more than half of students entering the tertiary-type A level for the first time at the age of 23 or older, has mandatory military service for 18-21 year-old males and 18-20 year-old females. Nevertheless, entering at a later stage into tertiary education has also some consequence on the economy (*i.e.* foregone tax revenue). Some governments are taking measures to encourage students to make the most of their capacities by moving more rapidly into and through tertiary education, and to provide universities with more incentives to promote on-time completion (Table A2.3).

Definitions and methodologies

Data refer to the academic year 2007-08 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Upper secondary graduation rates (Tables A2.1 and A2.2) are calculated as net graduation rates (*i.e.* as the sum of age-specific graduation rates) for the years 2005-09. Net graduation rates represent the estimated percentage of the age cohort that will complete upper secondary education (based on current patterns of graduation). Gross graduation rates are presented for the years 1995 and 2000-04. Similarly, gross graduation rates are presented in the coming years (2005-08) for countries that are unable to provide such detailed data. In order to calculate gross graduation rates, countries identify the age at which graduation typically occurs. The number of graduates, regardless of their age, is divided by the population at the typical graduation age. The graduation rates take into account students graduating from upper secondary education at the typical graduation ages, as well as older students (*e.g.* those in "second chance" programmes) or younger students. Information on the methods used to calculate graduation rates – gross *versus* net rates - are presented for each level of education in Annex 1.

The count of first-time graduates (Columns 1-4 in Table A2.1) is calculated by netting out students who graduated from another upper secondary programme in a previous year. As for the others columns of the tables, the net rate is calculated when data are available.

Graduates of ISCED 3A, 3B and 3C programmes are not considered as first-time counts. Therefore, gross graduation rates cannot be added, as some individuals graduate from more than one upper secondary programme and would be counted twice. The same applies for graduation rates according to programme orientation, *i.e.* general or vocational. Moreover, the typical graduation ages are not necessarily the same for the different programme types (see Annex 1). Pre-vocational and vocational programmes include both school-based programmes and combined school- and work-based

programmes that are recognised as part of the education system. Entirely work-based education and training that are not overseen by a formal education authority are not taken into account.

In Table A2.2 (trends in graduation rates at upper secondary level) or Table A2.4 (trends in entry rates), data for the years 1995, 2000, 2001, 2002, 2003 and 2004 are based on a special survey carried out in OECD countries and four of the six partner countries in January 2007.

Entry rates distinguish among different categories of tertiary qualifications: programmes at tertiary-type B level (ISCED 5B); programmes at tertiary-type A level (ISCED 5A); and advanced research programmes at the doctorate level (ISCED 6). Tertiary-type A programmes are largely theory-based and designed to provide qualifications for entry into advanced research programmes and highly skilled professions. Tertiary-type B programmes are classified at the same level of competence as tertiary-type A programmes, but are more occupationally oriented and provide direct access to the labour market. They tend to be of shorter duration than tertiary-type A programmes (typically two to three years) and are generally not designed to lead to university degrees. The institutional location of programmes can give a relatively clear idea of their nature (*e.g.* university or non-university institution of higher education), but these distinctions have become blurred and are therefore not applied in the OECD indicators.

Tables A2.3 and A2.4 show the sum of net entry rates for all ages. The net entry rate for a specific age is obtained by dividing the number of first-time entrants of that age for each type of tertiary education by the total population in the corresponding age group. The sum of net entry rates is calculated by adding the rates for each year of age. The result represents an estimate of the probability that a young person will enter tertiary education in his/her lifetime if current age-specific entry rates continue. Table A2.3 also shows the 20th, 50th and 80th percentiles of the age distribution of first-time entrants, *i.e.* the age below which 20%, 50% and 80% of first-time entrants are found. Finally, data on the impact of international students on tertiary entry rates are based on a special survey carried out by the OECD in December 2009.

New (first-time) entrants are students who enrol at the relevant level of education for the first time. International/foreign students enrolling for the first time in a postgraduate programme are considered first-time entrants.

Not all OECD countries can distinguish between students entering a tertiary programme for the first time and those transferring between different levels of tertiary education or repeating or re-entering a level after an absence. Thus first-time entry rates for each level of tertiary education cannot be added to form a total tertiary-level entrance rate because it would result in counting entrants twice.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310111

- ***Table A2.5. Post-secondary non-tertiary graduation rates (2008)***
- ***Table A2.6. Percentage of new entrants in tertiary education and proportion of females, by field of education (2008)***

A2

Table A2.1.

Upper secondary graduation rates (2008)

Sum of graduation rates for single year of age, by programme destination, programme orientation and gender

		Total (first-time graduates)				General programmes				Pre-vocational/ vocational programmes				ISCED 3A (designed to prepare for direct entry into tertiary-type A education)	ISCED 3B (designed to prepare for direct entry into tertiary-type B education)	ISCED 3C (long) similar to duration of typical 3A or 3B programmes	ISCED 3C (short) shorter than duration of typical 3A or 3B programmes
		M + F	*of which* < 25 years[1]	Males	Females	M + F	*of which* < 25 years[1]	Males	Females	M + F	*of which* < 25 years[1]	Males	Females	M + F	M + F	M + F	M + F
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(16)	(19)	(22)
OECD countries	Australia[2]	m	m	m	m	67	66	62	73	39	19	37	41	67	x(19)	39	x(19)
	Austria	m	m	m	m	17	17	14	21	75	68	84	64	17	53	1	20
	Belgium	m	m	m	m	37	37	32	42	68	50	63	74	61	a	20	25
	Canada[2]	76	m	72	81	74	m	69	79	8	m	8	7	74	a	8	a
	Chile	69	69	65	74	39	39	35	43	31	31	30	31	69	a	a	a
	Czech Republic	87	m	85	89	22	m	17	26	65	m	68	62	61	n	26	a
	Denmark	83	73	75	90	53	52	44	63	46	28	43	49	53	a	45	n
	Finland	93	83	89	97	49	48	41	57	88	47	81	95	93	a	a	a
	France	m	m	m	m	51	51	45	59	62	58	63	61	51	13	4	46
	Germany	97	m	97	98	42	m	36	47	56	m	60	51	42	55	a	n
	Greece	91	m	89	94	64	m	56	72	28	m	33	23	64	a	28	x(19)
	Hungary	78	72	74	82	64	59	57	71	16	15	19	13	64	a	16	x(19)
	Iceland	89	68	74	105	64	57	50	79	55	29	54	57	61	1	38	19
	Ireland	96	94	92	100	74	71	72	76	55	43	41	70	99	a	6	24
	Italy	85	m	83	87	34	m	24	45	64	m	72	56	75	n	a	23
	Japan	95	m	94	95	72	m	69	75	23	m	26	20	72	1	22	x(19)
	Korea	93	m	92	94	68	m	67	69	25	m	26	25	68	a	25	a
	Luxembourg	73	71	69	77	28	28	25	32	45	43	44	45	42	9	20	2
	Mexico	44	43	40	48	41	40	37	44	3	3	3	4	41	a	3	a
	Netherlands	m	m	m	m	36	36	33	40	69	57	68	69	63	a	42	a
	New Zealand	78	m	69	87	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	91	77	84	99	61	59	48	74	41	25	46	35	61	a	41	m
	Poland	83	82	79	88	56	52	45	67	33	33	41	26	77	a	12	a
	Portugal	63	58	55	71	42	38	35	50	20	19	21	20	x(1)	x(1)	x(1)	x(1)
	Slovak Republic	81	78	78	84	23	23	19	28	66	62	68	63	71	a	17	1
	Spain	73	m	67	80	45	m	37	52	38	m	37	40	45	a	20	18
	Sweden	76	76	74	79	33	33	28	38	43	43	46	40	76	n	n	n
	Switzerland	90	m	92	88	31	m	26	36	71	m	77	64	27	69	6	x(13)
	Turkey	26	26	29	23	17	17	18	16	9	9	11	7	26	a	a	m
	United Kingdom	91	m	88	94	m	m	m	m	m	m	m	m	m	m	m	m
	United States	77	77	77	76	x(1)	x(2)	x(3)	x(4)	x(1)	x(2)	x(3)	x(4)	x(1)	x(1)	x(1)	x(1)
	OECD average	*80*		*76*	*84*	*47*		*41*	*53*	*44*		*45*	*43*	*60*	*8*	*16*	*9*
	EU19 average	*83*		*80*	*87*	*43*		*37*	*49*	*52*		*53*	*51*	*62*	*8*	*15*	*11*
Partner countries	Brazil	m	m	m	m	63	53	52	74	9	5	7	10	63	9	a	a
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	57	56	45	70	19	18	25	13	74	a	a	2
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	28	28	27	30	16	16	18	13	28	16	a	a
	Israel	90	90	86	93	58	58	52	65	32	32	35	28	87	a	3	a
	Russian Federation	m	m	m	m	54	m	x(5)	x(5)	39	m	x(9)	x(9)	54	13	22	4
	Slovenia	85	m	78	93	33	33	25	41	67	67	69	65	35	41	22	2

Note: Columns showing male/female graduation rates at upper secondary level by programme orientation (*i.e.* Columns 14-15, 17-18, 20-21, 23-24) are available for consultation on line (see *StatLink* below).

Please refer to Annex 1 for information on the method used to calculate graduation rates (gross rates *versus* net rates) and the corresponding typical ages. Mismatches between the coverage of the population data and the graduate data mean that the graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. Sum of graduation rates for single year of age for males and females below the age of 25.

2.Year of reference 2007.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310111

A2

Table A2.2.

Trends in graduation rates (first-time) at upper secondary level (1995-2008)

		1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	Australia	m	m	m	m	m	m	m	m	m	m
	Austria	m	m	m	m	m	m	m	m	m	m
	Belgium	m	m	m	m	m	m	m	m	m	m
	Canada[1]	m	m	77	79	83	79	80	79	76	m
	Chile	46	63	m	61	64	66	73	71	71	69
	Czech Republic[1]	78	m	84	83	88	87	89	90	88	87
	Denmark	80	90	91	93	87	90	82	84	85	83
	Finland	91	91	85	84	90	95	94	94	97	93
	France	m	m	m	m	m	m	m	m	m	m
	Germany[1]	100	92	92	94	97	99	99	100	100	97
	Greece	80	54	76	85	96	93	100	98	96	91
	Hungary	m	m	83	82	87	86	82	85	84	78
	Iceland	80	67	70	79	81	87	79	87	86	89
	Ireland	m	74	77	78	91	92	91	87	90	96
	Italy	m	78	81	78	m	82	81	84	85	85
	Japan[1]	91	94	93	92	91	91	93	93	93	95
	Korea[1]	88	96	100	99	92	94	94	93	91	93
	Luxembourg	m	m	m	69	71	69	75	71	75	73
	Mexico	m	33	34	35	37	39	40	42	43	44
	Netherlands	m	m	m	m	m	m	m	m	m	m
	New Zealand	72	80	79	77	78	75	73	75	77	78
	Norway	77	99	105	97	92	100	89	88	92	91
	Poland	m	90	93	91	86	79	85	81	84	83
	Portugal[2]	52	52	48	50	60	53	51	54	65	63
	Slovak Republic	85	87	72	60	56	83	83	84	85	81
	Spain[1]	62	60	66	66	67	66	72	72	74	73
	Sweden	62	75	71	72	76	78	78	76	74	76
	Switzerland[1]	86	88	91	92	89	87	89	89	89	90
	Turkey	37	37	37	37	41	55	48	52	58	26
	United Kingdom	m	m	m	m	m	m	86	88	89	91
	United States	69	70	71	73	74	75	75	77	78	77
	OECD average	*74*	*75*	*77*	*76*	*78*	*80*	*80*	*81*	*82*	*80*
	OECD average for countries with 1995 and 2008 data	*74*									*81*
	EU19 average	*77*	*77*	*78*	*78*	*81*	*82*	*83*	*83*	*85*	*83*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m	75	m	m
	Israel	m	m	m	90	89	93	90	90	92	90
	Russian Federation	m	m	m	m	m	m	m	m	m	m
	Slovenia[1]	m	m	m	m	m	m	83	97	91	85

Note: Up to 2004, graduation rates at upper secondary level were calculated on a gross basis. From 2005 and for countries with available data, graduation rates are calculated as net graduation rates (*i.e.* as the sum of age-specific graduation rates).

1. The graduation rates are calculated on a gross basis.
2. Year of reference 1997 instead of 1995.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310111

A2

Table A2.3.

Entry rates into tertiary education and age distribution of new entrants (2008)

Sum of net entry rates for each year of age, by gender and programme destination

		Tertiary-type B				Tertiary-type A							Advanced research programmes			
		Net entry rates				Net entry rates				Age at:			Net entry rates			
		M + F	Adjusted[1]	Males	Females	M + F	Adjusted[1]	Males	Females	20th percentile[2]	50th percentile[2]	80th percentile[2]	M + F	Adjusted[1]	Males	Females
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	Australia	m	m	m	m	87	61	76	99	18.7	21.0	27.0	3.0	2.0	2.9	3.0
	Austria	9	9	7	10	50	39	44	56	19.5	21.1	25.3	5.4	4.1	5.7	5.2
	Belgium	37	m	31	44	31	m	29	32	18.3	18.7	19.8	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	48	m	50	46	45	m	42	49	18.6	19.8	25.6	0.4	m	0.4	0.3
	Czech Republic	9	m	6	12	57	m	50	65	19.6	20.5	25.8	3.5	m	3.9	3.0
	Denmark	21	m	21	21	59	m	46	73	20.6	22.1	26.1	2.7	m	2.8	2.6
	Finland	a	m	a	a	70	m	61	79	19.7	21.3	26.2	m	m	m	m
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	14	m	11	17	36	30	36	37	19.9	21.2	23.9	m	m	m	m
	Greece	26	m	27	26	42	m	33	53	18.2	18.9	28.8	4.2	m	4.7	3.7
	Hungary	12	m	7	17	57	m	52	62	19.2	20.3	24.8	1.5	m	1.5	1.5
	Iceland	6	6	5	6	73	64	54	94	21.0	23.2	32.1	1.8	1.3	1.7	1.9
	Ireland	20	20	19	21	46	45	43	49	18.4	19.3	21.1	m	m	m	m
	Italy	n	m	n	n	51	m	43	60	19.2	19.7	21.0	2.2	m	2.1	2.4
	Japan	29	m	22	37	48	m	54	42	18.2	18.6	18.9	1.0	m	1.4	0.6
	Korea	38	m	35	42	71	m	72	70	18.3	18.8	24.0	2.2	m	2.7	1.7
	Luxembourg	n	m	n	n	25	m	25	25	19.9	21.5	24.7	0.7	m	0.6	0.7
	Mexico	2	2	3	2	34	34	34	34	18.4	19.5	22.7	0.3	0.3	0.3	0.2
	Netherlands	n	m	n	n	62	57	57	67	18.4	19.8	22.7	m	m	m	m
	New Zealand	46	38	41	51	72	58	60	84	18.6	20.6	33.3	2.5	1.3	2.5	2.5
	Norway	n	m	n	n	71	66	57	86	19.8	21.1	29.4	2.9	2.9	3.0	2.9
	Poland	1	m	n	1	83	82	76	90	19.4	20.3	23.0	a	m	a	a
	Portugal	n	m	n	n	81	m	71	92	18.9	21.5	31.3	3.9	m	2.9	5.0
	Slovak Republic	1	m	1	1	72	m	59	86	19.5	20.8	27.9	3.3	m	3.2	3.3
	Spain	22	m	20	23	41	m	35	48	18.4	18.9	22.2	2.7	m	2.4	3.0
	Sweden	10	10	9	10	65	56	53	78	19.9	22.1	30.2	2.6	1.8	2.7	2.5
	Switzerland	19	m	21	18	38	30	37	39	20.0	21.6	26.6	4.3	2.2	4.7	3.9
	Turkey	23	m	26	19	30	m	32	28	18.5	19.8	23.5	0.6	m	0.7	0.6
	United Kingdom	30	m	21	39	57	m	50	64	18.5	19.5	24.6	2.5	m	2.6	2.3
	United States	x(5)	x(6)	x(7)	x(8)	64	63	57	72	18.4	19.4	25.5	m	m	m	m
	OECD average	*16*		*14*	*17*	*56*		*50*	*63*	*19.1*	*20.4*	*25.4*	*2.4*		*2.4*	*2.3*
	EU19 average	*12*		*10*	*14*	*55*		*48*	*62*	*19.2*	*20.4*	*25.0*	*2.7*		*2.7*	*2.7*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	31	31	22	40	42	41	33	52	19.2	19.8	23.4	2.8	2.6	2.3	3.2
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	5	m	4	5	22	m	21	22	18.3	18.7	19.1	0.2	m	0.2	0.1
	Israel	26	m	24	28	60	m	54	66	21.4	23.7	26.9	2.1	m	2.0	2.2
	Russian Federation	30	m	x(1)	x(1)	68	m	x(5)	x(5)	m	m	m	2.1	m	x(12)	x(12)
	Slovenia	32	m	32	32	56	m	43	69	19.2	19.7	20.9	1.0	m	0.8	1.3

Note: Mismatches between the coverage of the population data and the new entrants data mean that the entry rates for those countries that are net exporters of students may be underestimated and those that are net importers may be overestimated. The adjusted entry rates seek to compensate for these differences.

Please refer to Annex 1 for information on the method used to calculate entry rates (gross rates *versus* net rates) and the corresponding age of entry.

1. Adjusted entry rates correspond to the entry rates when international students are excluded.

2. Respectively 20%, 50% and 80% of new entrants are below this age.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310111

Table A2.4.

Trends in entry rates at tertiary level (1995-2008)

		Tertiary-type 5A[1]								Tertiary-type 5B							
		1995	2000	2003	2004	2005	2006	2007	2008	1995	2000	2003	2004	2005	2006	2007	2008
OECD countries	Australia	m	59	68	70	82	84	86	87	m	m	m	m	m	m	m	m
	Austria	27	34	34	37	37	40	42	50	m	m	8	9	9	7	7	9
	Belgium	m	m	33	34	33	35	30	31	m	m	33	35	34	36	37	37
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	m	m	54	46	46	43	41	45	m	m	18	25	35	34	49	48
	Czech Republic	m	25	33	38	41	50	54	57	m	9	9	10	8	9	8	9
	Denmark	40	52	57	55	57	59	57	59	33	28	22	21	23	22	22	21
	Finland	39	71	73	73	73	76	71	70	32	a	a	a	a	a	a	a
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	26	30	36	37	36	35	34	36	15	15	16	15	14	13	13	14
	Greece	15	30	35	35	43	49	43	42	5	21	22	24	13	31	23	26
	Hungary	m	64	69	68	68	66	63	57	m	1	7	9	11	10	11	12
	Iceland	38	66	83	79	74	78	73	73	12	10	9	8	7	4	3	6
	Ireland	m	32	41	44	45	40	44	46	m	26	17	17	14	21	21	20
	Italy	m	39	54	55	56	56	53	51	m	1	1	1	n	n	n	n
	Japan	31	40	43	42	43	45	46	48	33	32	31	32	33	32	30	29
	Korea	41	45	47	49	54	59	61	71	27	51	47	47	51	50	50	38
	Luxembourg	m	m	m	m	m	m	m	25	m	m	m	m	m	m	m	n
	Mexico	m	27	29	30	30	31	32	34	m	1	2	2	2	2	2	2
	Netherlands	44	53	52	56	59	58	60	62	n	n	n	n	n	n	n	n
	New Zealand	83	95	107	86	79	72	76	72	44	52	58	50	48	49	48	46
	Norway	59	67	75	72	73	70	70	71	5	5	1	1	n	n	n	n
	Poland	36	65	70	71	76	78	78	83	1	1	1	1	1	1	1	1
	Portugal	m	m	m	m	m	53	64	81	m	m	m	m	m	1	1	n
	Slovak Republic	28	37	40	47	59	68	74	72	1	3	3	2	2	1	1	1
	Spain	m	47	46	44	43	43	41	41	3	15	21	22	22	21	21	22
	Sweden	57	67	80	79	76	76	73	65	m	7	7	8	7	10	9	10
	Switzerland	17	29	38	38	37	38	39	38	29	14	17	17	16	15	16	19
	Turkey	18	21	24	26	27	31	29	30	9	9	24	16	19	21	21	23
	United Kingdom	m	47	48	52	51	57	55	57	m	29	30	28	28	29	30	30
	United States	m	42	63	63	64	64	65	64	m	13	x(5)	x(6)	x(7)	x(8)	x(9)	x(10)
	OECD average	*37*	*47*	*53*	*53*	*54*	*56*	*56*	*56*	*17*	*15*	*16*	*16*	*16*	*16*	*16*	*16*
	OECD average for countries with 1995, 2000 and 2008 data	*37*	*50*						*59*	*19*	*19*						*20*
	EU19 average	*35*	*46*	*50*	*52*	*53*	*55*	*55*	*55*	*11*	*11*	*12*	*12*	*11*	*12*	*12*	*12*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	54	41	39	42	m	m	m	m	34	32	32	31
	Israel	m	48	58	58	55	56	57	60	m	31	25	m	25	26	28	26
	Russian Federation	m	m	63	68	68	65	66	68	m	m	38	34	33	32	31	30
	Slovenia	m	m	m	m	40	46	50	56	m	m	m	m	49	43	38	32

Note: Years 2001 and 2002 are available for consultation on line (see *Statlink* below).
Please refer to Annex 1 for information on the method used to calculate entry rates (gross rates *versus* net rates) and the corresponding age of entry.
1. The entry rates for tertiary-type A programmes include advanced research programmes for 1995, 2000-03 (except for Belgium and Germany).
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310111

HOW MANY STUDENTS FINISH TERTIARY EDUCATION?

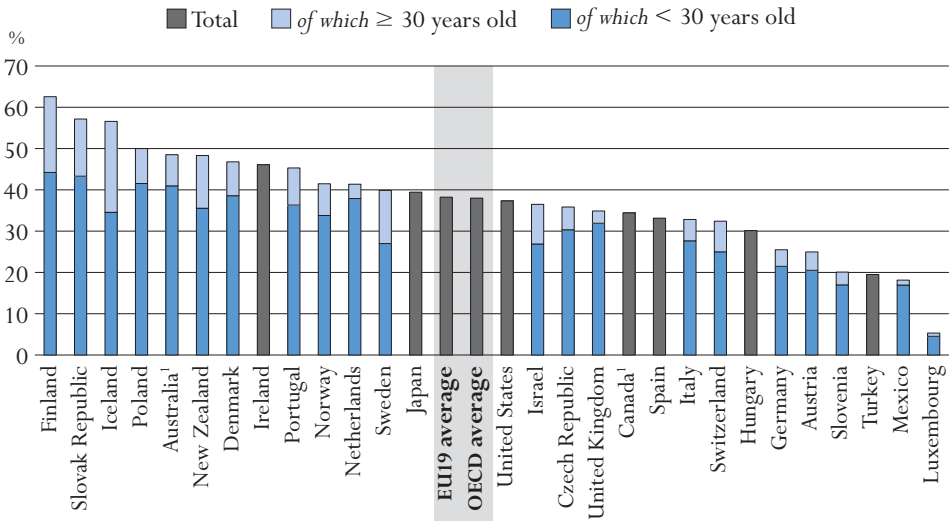
Tertiary education covers a wide range of programmes and serves overall as an indicator of countries' production of advanced and specialised competencies. A traditional university degree is associated with completion of tertiary-type A courses; tertiary-type B generally refers to shorter and often vocationally oriented courses. This indicator shows the current tertiary graduate output of education systems, *i.e.* the percentage of the population in the typical age cohort for tertiary education that successfully completes tertiary programmes, as well as the evolution of the sector since 1995.

Key results

Chart A3.1. Tertiary-type A graduation rates in 2008 (first-time graduation)

The chart shows the estimated percentage of a 2008 age cohort that will complete, for the first time, tertiary-type A education (based on current patterns of graduation); it also indicates how many young adults complete tertiary-type A education outside of the typical age of graduation.

Based on current patterns of graduation, on average 38% of an age cohort in 2008 is estimated to complete tertiary-type A education in the 26 OECD countries with comparable data. The proportion of students who complete tertiary-type A education outside the typical age of graduation is high in Finland, Iceland, New Zealand, Sweden and the partner country Israel, where graduation rates for students aged over 30 account for one-quarter or more of the total graduation rate.



1. Year of reference 2007.

Countries are ranked in descending order of the graduation rates for tertiary-type A education in 2008.

Source: OECD. Table A3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310130

Other highlights of this indicator

- Tertiary-type A graduation rates range from less than 10% in Luxembourg to 45% or more in Australia, Denmark, Finland, Iceland, Ireland, New Zealand, Poland, Portugal and the Slovak Republic. For countries with higher numbers of international students, the graduation rate is artificially inflated; for Australia and New Zealand, the adjusted graduation rates – when international students are excluded – are 35% and 39%, respectively.

- Disparities among countries are greater when gender is taken into consideration. On average in OECD countries, the number of females who obtain tertiary-type A qualifications is significantly higher than the number of males; females' graduation rate is 46% compared to 30% for males.

- On average in OECD countries, the tertiary-type A graduation rate has risen by 21 percentage points over the last 13 years. In every country for which comparable data are available, tertiary-type A graduation rates increased between 1995 and 2008, often quite substantially.

- Based on current patterns of graduation, on average, 10% of an age cohort in 2008 is estimated to complete tertiary-type B education in the 26 OECD countries with comparable data and 1.4% programmes leading to advanced research qualifications.

- International students make a significant contribution to tertiary graduate output in a number of countries, and they have a marked impact on estimated graduation rates. When adding the impact of international students with the impact of students outside the typical age, Australia's and New Zealand's graduation rates decrease by 20 percentage points.

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Policy context

Attainment of upper secondary education has become the norm in most countries today. In addition, most students graduate from upper secondary programmes which are designed to provide access to tertiary education. Over the last decade, this has lead to a significant increase in entry rates and enrolments at tertiary level of education (see Indicators A2 and C1). The incentives in OECD countries to obtain a tertiary qualification remain strong, both in terms of higher salaries and better employment prospects (see Indicators A6 and A7). Furthermore, the labour market demand for highly qualified workers has grown significantly (see Indicator A1) and countries with high graduation rates at the tertiary level are also those most likely to develop or maintain a highly skilled labour force. Lastly, meeting the expansion of tertiary qualification while at least maintaining quality is bound to create pressures for current levels of tertiary spending to be maintained or increased.

Evidence and explanations

Tertiary graduation rates show the rate at which each country's education system produces human capital. However, countries' tertiary programmes vary widely in structure and scope. Tertiary graduation rates are influenced both by the degree of access to tertiary programmes and by the demand for higher skills in the labour market. They are also affected by the way in which the degree and qualification structures are organised within countries.

First-time tertiary-type A graduation rates

Tertiary-type A programmes are largely theory-based and are designed to provide qualifications for entry into advanced research programmes and professions with high knowledge and skill requirements. The organisation of tertiary-type A programmes differs among countries. The institutional framework may be universities or other institutions. The duration of programmes leading to a first tertiary-type A qualification ranges from three years (*e.g.* the bachelor's degree in many colleges in Ireland and the United Kingdom in most fields of education, and the *licence* in France) to five years or more (*e.g.* the *Diplom* in Germany).

Many countries make a clear distinction between first and second university degrees (*i.e.* undergraduate and graduate programmes), but this is not always the case. In some systems, degrees that are internationally comparable to a master's degree are obtained through a single programme of long duration. The Bologna process for European countries tend to harmonise the programme duration proposed to students (Box A3.1).

Based on current patterns of graduation, on average 38% of an age cohort in 2008 is estimated to complete tertiary-type A education in the 26 OECD countries with comparable data. This figure ranges from less than 10% in Luxembourg to 45% or more in Australia, Denmark, Finland, Iceland, Ireland, New Zealand, Poland, Portugal and the Slovak Republic (Table A3.1).

Disparities among countries are greater when gender is taken into consideration

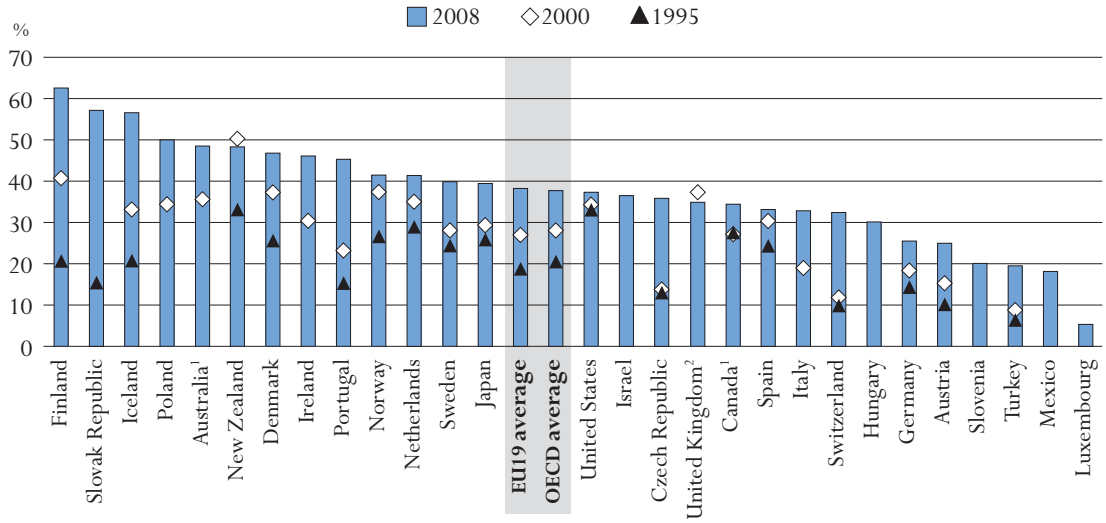
On average in OECD countries, the number of females who obtain tertiary-type A qualifications is significantly higher than the number of males; females' graduation rate is 46% compared to 30% for males. The gender gap is equal or superior to 25 percentage points in Finland, Poland and the Slovak Republic and more than 40 percentage points in Iceland. In Germany, Luxembourg,

Mexico, Switzerland and Turkey the sexes are quite balanced. In Japan more males graduate from tertiary-type A programmes.

In every country for which comparable data are available, graduation rates increased between 1995 and 2008, often quite substantially

On average in OECD countries, tertiary-type A graduation rates increased by 21 percentage points over the last 13 years. In Denmark, New Zealand, Norway and Spain, increases were more marked from 1995 to 2000 than from 2000 to 2008. New Zealand has even experienced a decline in its graduation rate since 2000, mainly due to the fluctuation of international students entering and leaving the country (Chart A3.2).

Chart A3.2. Tertiary-type A graduation rates in 1995, 2000 and 2008 (first-time graduation)



1. Year of reference 2007 instead of 2008.
2. Break in time series following methodological change in 2008.
Countries are ranked in descending order of the graduation rates for tertiary-type A education in 2008.
Source: OECD. Table A3.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310130

The most significant increases between 2000 and 2008 were reported in the Czech Republic and Switzerland, where the rate almost tripled over the period, and to a lesser extent in Iceland, Italy, Portugal and Turkey. In Switzerland, the striking increase at the beginning of this century reflected the creation in 1997 of the *Fachhochschulen* (universities of applied science) and the later extension of these programmes to more institutions and programmes. These two countries – the Czech Republic and Switzerland - have reduced part of their lag in terms of graduations and are in 2008 just below the OECD average.

Due to the progressive implementation of the Bologna process in the European countries, the graduation rate has risen rapidly in recent years in some countries (Box A3.1). This has been the case in the Czech Republic between 2004 and 2007, and in Finland and the Slovak Republic between 2007 and 2008. This sharp increase is temporary in Finland and due to the ending of

certain pre-Bologna study programmes. In 2008, the Slovak Republic grouped graduates from old (*i.e.* some of their longer programmes) and new programmes. In Italy, the large increase between 2002 and 2005 was largely due to structural change. The reform of the Italian tertiary system in 2002 allowed university students who had originally enrolled in programmes of longer duration to obtain a degree after three years of study.

Between 2000 and 2008, the graduation rate in Norway, Spain and the United States increased less than in other countries. Austria and Germany, despite an increase in the tertiary-type A graduation rate (courses have been shortened and *numerus clausus* restrictions have been eased for Germany), are still well below the OECD average.

In some countries, students graduate outside the typical age of graduation

Graduation at a later stage can mean certain benefits but also certain costs. When adults have the possibility to enter tertiary education after they have been in the labour market, this increases human capital, improves the adaptability of the workforce to ongoing changes and meets the demand for higher skills in the labour market. In some countries, a student's work experience has real value for higher education studies.

In the 21 countries with available data on students' age, mature students have a high impact in Finland, Iceland, New Zealand, Sweden and the partner country Israel, as graduation rates for students outside the typical age of graduation represent one-quarter of the total graduation rate (Chart A3.1).

However, staying longer in the school system also implies some additional costs (*i.e.* higher expenditure per student [see Indicator B1], foregone tax revenue with a shorter work life and later launch of career trajectory). Government authorities in some countries take this situation seriously. In Finland, many upper secondary graduates have to wait for an extended period before they obtain a place in university or polytechnic education (see Indicator A2) and furthermore, the average duration of studies is long. As a result, the median age of students graduating from tertiary education, nearly 27 years, is the third highest in the OECD area (after Iceland and Sweden). The Finnish government is taking measures to lower the age of graduation from tertiary education in order to increase the number of working years of the population and to finance the pensions of the large age group that is soon to retire, owing to a decrease in the working population in relation to the retired population.

For Israel, the high proportion of later graduations corresponds to the time spent in mandatory military service before embarking on this level of education. As a consequence, the median age of graduation from a tertiary-type A programme is 27 years (2 years older than the OECD average).

Finland, Iceland and Norway are the three countries with the most extensive possibilities for later graduation for adults at both the upper secondary and tertiary levels.

First and second degrees, and advanced research qualifications

Graduation rates for first degrees are available for all countries; however, this is not the case for first-time graduation rates, as some countries' educational data reporting systems do not include sufficient information on first-time graduates.

On average among OECD countries, more than one-third of an age cohort in 2008 is estimated to complete their first degree at tertiary-type A level. The proportion exceeds 50% in Australia,

Iceland, New Zealand, the Slovak Republic and the partner country the Russian Federation, and 80% in Finland. Finland's high graduation rates are temporary and linked to the ending of certain pre-Bologna study programmes. By contrast, the graduation rate is less than 20% in Chile, Luxembourg, Mexico and Turkey. The partner country Slovenia is the only country in which more people obtained their first degree from more occupationally oriented programmes (tertiary-type B) than from the largely theory-based programmes (tertiary-type A). In Belgium and Chile, the rates of graduation from both types of programmes are similar (Table A3.3).

For the 30 OECD countries with comparable data, on average 1.4% of an age cohort in 2008 is estimated to complete an advanced research qualification (such as a Ph.D.). The proportion exceeds 2% in Finland, Germany, Portugal, Sweden, Switzerland and the United Kingdom (Table A3.3).

Box A3.1. Structure of tertiary education: Main programme blocks

The Bologna process had its origins in the Sorbonne Joint Declaration on Harmonisation of the Architecture of the European Higher Education System, signed in 1998 by France, Germany, Italy and the United Kingdom. Its purpose was to provide a common framework for tertiary education in Europe at the bachelor, master and doctorate levels. Under the new system, the average duration of the bachelor's degree, the master's degree and doctorate have been harmonised in order to improve the comparability of data on European countries as well as non-European OECD countries and to facilitate possibilities for student mobility between countries and the recognition of equivalence between similar programmes. Table A3.4 presents the main programme blocks in tertiary education and the distribution of graduates from the corresponding blocks. The blocks are organised as follow:

- Programmes with a duration of less than three years but which are still considered to be part of tertiary education. These programmes represent in 2008 on average 6% of total graduations and more than 10% in Denmark, France, Korea, the United Kingdom and the United States.
- Bachelor programmes or equivalents which last three to four years. This is the most common programme block and represents in 2008 on average 43% of total graduations and more than 50% in Belgium, Denmark, Iceland, Ireland, Italy, Korea, the Netherlands, Norway, the Slovak Republic and the partner country Estonia.
- Master programmes or equivalents typically last between one and four years, and typically prepare for a second degree/qualification following a Bachelor programme. The cumulative duration of studies at the tertiary level thus lasts from four to eight years or even longer. They represent in 2008 on average 16% of total graduations and 20% or more in Denmark, Iceland, Ireland, Italy, the Netherlands, Norway, Poland, Sweden and the United States.
- Long programmes and degrees with a single structure and a minimum duration of five years. Long programmes of five or more years' duration are for the most part equivalent to master degrees but in few exceptions the qualification obtained is equivalent to a bachelor programme. They are typically medical studies, architecture, engineering and theology. In 2008, they represent only 4% of total graduations, but more than 8% in France and the United Kingdom to over 20% in Poland, the Slovak Republic and Sweden. However, it should be noted that a part of the graduations reported as outside the Bologna programmes concern this category.
- Programmes and degrees at the doctorate/Ph.D. level. This level normally corresponds to ISCED 6 (Table A3.2). Programme duration is three to four years of study depending on programme and country, and this block represents on average 2% of total graduations in 2008.

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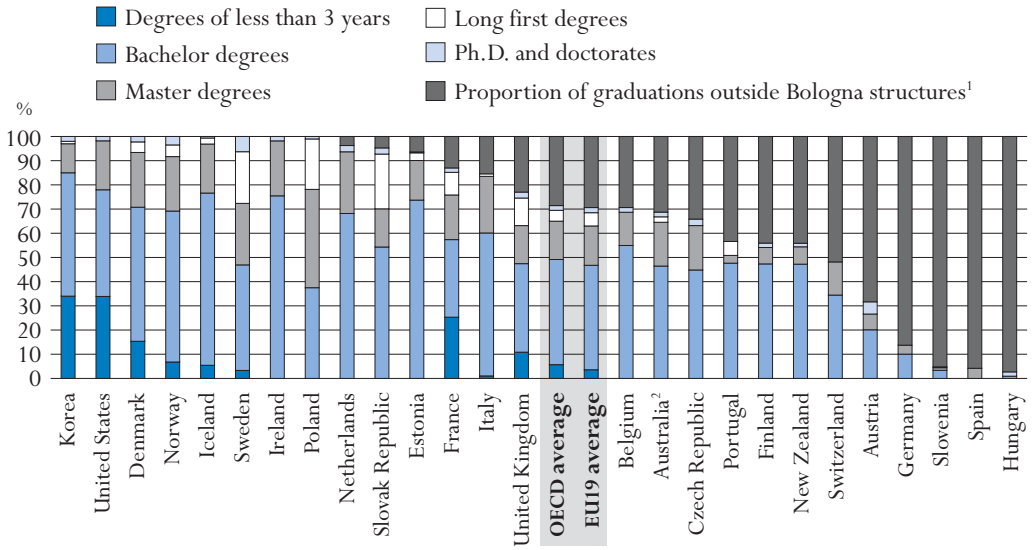
Chart A3.3. Structure of tertiary education: Main programme blocks (2008)



1. Or in programmes that lead to a similar degree in non-European countries.
2. Year of reference 2007.

Countries are ranked in descending order of the proportion of graduations following the Bologna structures.

Source: OECD. Table A3.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

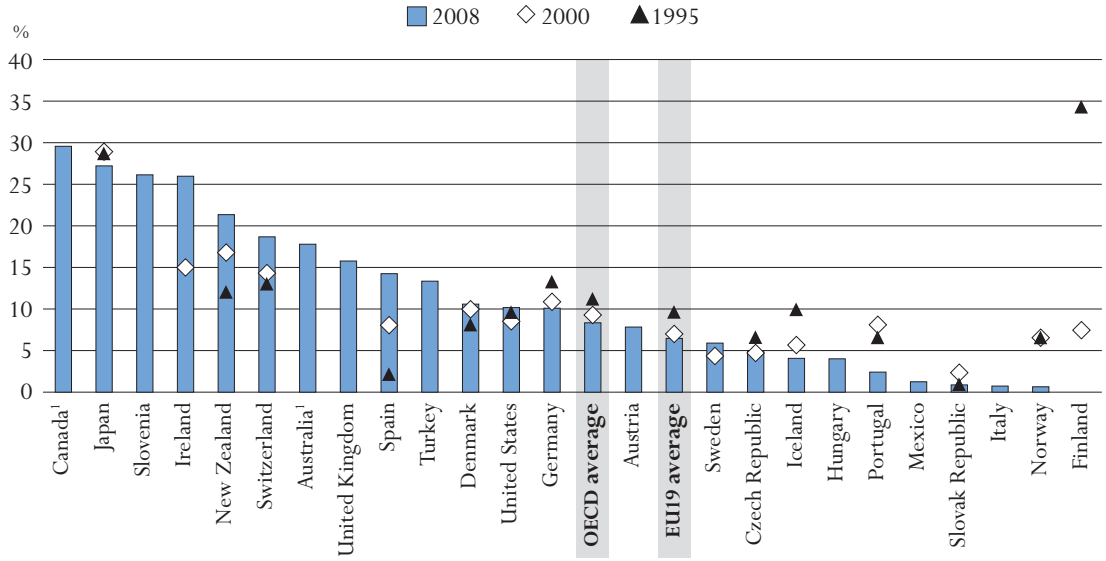
StatLink http://dx.doi.org/10.1787/888932310130

As the Bologna process aims at equivalent education systems in terms of graduations, it will allow for better comparability of data (*e.g.* for first or second degree programmes). In the short term, it also leads to a structural increase in graduation rates in European countries (see trend data and the discussion of Table A3.2). However, in some countries, certain fields have not yet shifted to the different blocks because of difficulties in deciding on the best allocation of programmes among blocks. In 2008, these programmes represent on average 29% of total graduations and more than 60% in Austria, Germany, Hungary, Spain and the partner country Slovenia. The challenge for these countries will be to make these decisions in order to be fully integrated in the Bologna structure which was originally to be completely operational in 45 countries, mainly in the European area, by 2010.

First-time tertiary-type B graduation rates

Tertiary-type B programmes are classified at the same level of competence as tertiary-type A programmes but are more occupationally oriented and usually lead directly to the labour market. They are typically of shorter duration than tertiary-type A programmes – usually two to three years – and are generally not intended to lead to university-level degrees. Graduation rates for tertiary-type B programmes average some 10% of an age cohort for the 26 OECD countries with comparable data. In fact, graduation from tertiary-type B programmes is a significant feature of the tertiary system in only a few countries, most notably Canada, Ireland, Japan, New Zealand and the partner country Slovenia, where over 20% of the age cohort is estimated to obtain tertiary-type B qualifications in 2008 (Table A3.1).

Chart A3.4. Tertiary-type B graduation rates in 1995, 2000 and 2008 (first-time graduation)



1. Year of reference 2007 instead of 2008.
Countries are ranked in descending order of the graduation rates for tertiary-type B education in 2008.
Source: OECD. Table A3.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310130

Trends in provision of and graduation from tertiary-type B programmes vary even though the OECD average has been stable over the past 13 years. For instance, in Spain, the sharp rise in tertiary-type B graduation rates between 1995 and 2008 is attributable to the development of new advanced level vocational training programmes. In Finland, in contrast, these programmes are being phased out and the proportion of the age cohort graduating from them has thus fallen rapidly (Table A3.2).

International students' contribution to graduate output

International students make a significant contribution to tertiary graduate output in a number of countries, and they have a marked impact on estimated graduation rates. In order to compare graduation rates across countries it is important to examine the impact of international students on the graduate output. For countries with a high proportion of international students (*e.g.* Australia and New Zealand), graduation rates are artificially inflated as all international graduates are by definition first-time graduates, regardless of their previous education in other countries. For Australia and New Zealand, the adjusted graduation rates – which exclude international students – are 35% and 39%, respectively. When adding the impact of international students with the impact of students outside the typical age, Australia's and New Zealand's graduation rates decrease by 20 percentage points (Table A3.1).

Only nine countries have information on first-time graduation rates for international students. Data on first degree graduation rates for students who travelled to a country different from their own for the purpose of tertiary study are available in 18 countries (and in additional 10 countries for foreign students).

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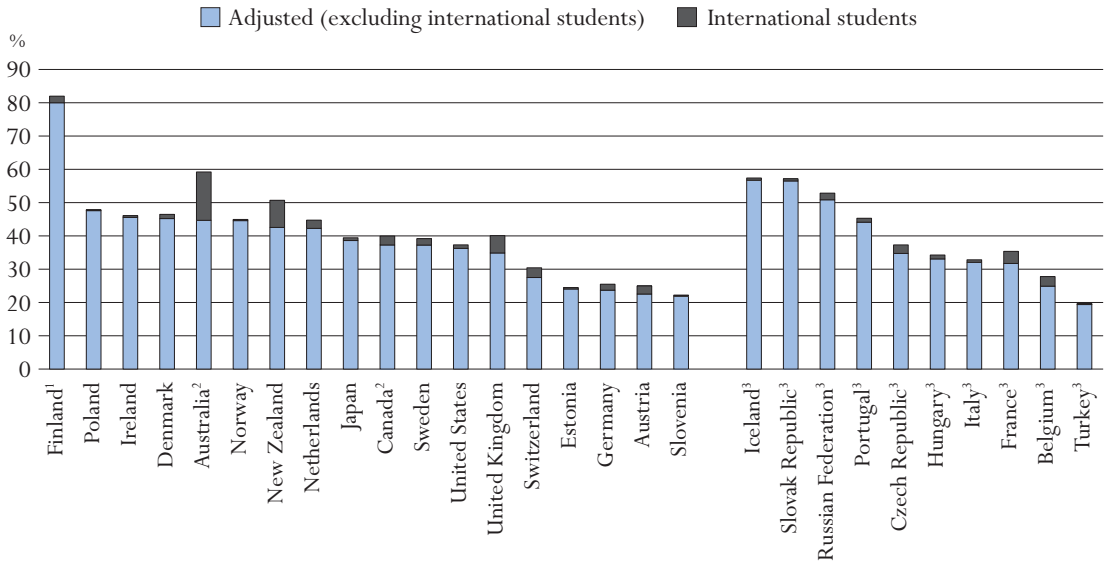
Chart A3.5. Graduation rates at tertiary-type A level (first degree): Impact of international/foreign students (2008)



1. International students data on first degree programmes include second degree programmes.
2. Year of reference 2007.
3. Foreign graduation rate at tertiary-type A first degree level. These data are not comparable with data on international graduates and are therefore presented separately.

Countries are ranked in descending order of the adjusted graduation rate in tertiary-type A first degree programmes.

Source: OECD. Table A3.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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In Australia, New Zealand and to a lesser extent the United Kingdom, the exclusion of international students from the graduation rate at the tertiary-type A first degree level results in a drop of 15, 8 and 5 percentage points, respectively. This implies that the true domestic graduate output is significantly overestimated. This is most marked for tertiary-type A second degree programmes in Australia and the United Kingdom, where graduation rates drop by 10 and 9 percentage points when international graduates are excluded. International graduates in advanced research programmes represent more than 40% of the graduate output in Switzerland and the United Kingdom. The contribution of international students to graduate output is also significant at the tertiary-type A first degree – although to a lesser extent (around 10% of the graduate output) – in Austria and Switzerland. Among countries for which data on student mobility are not available, the contribution of foreign students is 10% or more in Belgium and France (Chart A3.5).

Definitions and methodologies

Data refer to the academic year 2007-08 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Tertiary graduates are those who obtain a tertiary qualification in the specified reference year. This indicator distinguishes among different categories of tertiary qualifications: *i)* tertiary-type B qualifications (ISCED 5B); *ii)* tertiary-type A qualifications (ISCED 5A); and *iii)* advanced research

degrees of doctorate standard (ISCED 6). For some countries, data are not available for these categories. In such cases, the OECD has assigned graduates to the most appropriate category (see Annex 3 at *www.oecd.org/edu/eag2010* for a list of programmes included for each country at the tertiary-type A and tertiary-type B levels).

To allow for comparisons that are independent of differences in national degree structures, tertiary-type A degrees are subdivided according to the total theoretical duration of study – the standard (set out by law or regulations) number of years in which a student can complete the education programme. Specifically, the OECD classification divides degrees into three groups: medium (three to less than five years), long (five to six years) and very long (more than six years). Degrees obtained from programmes of less than three years' duration are not considered equivalent to the completion of the tertiary-type A level of education and are therefore not included in this indicator. Second degree programmes are classified according to the cumulative duration of the first and second degree programmes. Individuals who already hold a first degree are deducted.

In Tables A3.1, A3.2 (from 2005 onwards) and A3.3, graduation rates for tertiary programmes (tertiary-type A, tertiary-type B and advanced research programmes) are calculated as net graduation rates (*i.e.* as the sum of age-specific graduation rates). Net graduation rates represent the estimated percentage of the age cohort that will complete tertiary-type A/B education (based on current patterns of graduation). Gross graduation rates are presented for countries that are unable to provide such detailed data. In order to calculate gross graduation rates, countries identify the age at which graduation typically occurs (see Annex 1). The number of graduates, regardless of their age, is divided by the population at the typical graduation age. In many countries, defining a typical age of graduation is difficult, however, because graduates are dispersed over a wide range of ages. Finally, data on the impact of international students on tertiary graduation rates are based on a special survey carried out by the OECD in December 2009.

In Table A3.2, data on trends in graduation rates at tertiary level for the years 1995, 2000, 2001, 2002, 2003 and 2004 are based on a special survey carried out in OECD countries and four of the six partner countries in January 2007.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310130

- ***Table A3.5. Relative distribution of graduates, by field of education (2008)***
- ***Table A3.6. Percentage of tertiary qualifications awarded to females at tertiary level, by field of education (2008)***
- ***Table A3.7. Trends in net graduation rates at advanced research qualification level (1995-2008)***

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Table A3.1.

Graduation rates in tertiary education and age distribution of new graduates at tertiary-type A level (2008)

Sum of graduation rates for single year of age, by gender and programme destination

		Tertiary-type A programmes (first-time graduation)									Tertiary-type B programmes (first-time graduation)					
		All age groups	*of which* < 30	Adjusted from international students[1]		Males	Females	Age at:			All age groups	*of which* < 30	Adjusted from international students[1]		Males	Females
				All age groups	*of which* ≤ 30			20th percentile[2]	50th percentile[2]	80th percentile[2]			All age groups	*of which* ≤ 30		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	**Australia**[3]	48.5	41.0	34.6	28.7	40.5	56.8	21.5	23.1	27.7	17.8	12.3	m	m	16.2	19.4
	Austria	25.0	20.5	22.5	18.6	21.9	28.1	23.5	25.8	29.8	7.8	5.3	7.7	5.3	8.2	7.4
	Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Canada[3]	34.4	m	m	m	25.5	43.8	m	m	m	29.6	m	m	m	23.8	35.7
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	35.8	30.3	m	m	29.3	42.8	23.3	25.0	28.7	5.0	4.7	m	m	2.7	7.5
	Denmark	46.8	38.6	m	m	36.3	57.5	23.7	25.8	30.4	10.6	8.2	m	m	10.9	10.3
	Finland	62.6	44.2	m	m	45.9	80.0	24.7	26.9	33.3	n	n	m	m	n	n
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	25.5	21.5	m	m	24.0	27.0	24.6	26.5	29.3	10.1	m	m	m	7.5	12.7
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	30.1	m	m	m	19.9	40.6	m	m	m	4.0	m	m	m	2.1	6.0
	Iceland	56.6	34.6	55.5	34.0	37.0	78.2	24.0	27.2	38.8	4.1	1.1	4.0	1.1	3.6	4.6
	Ireland	46.1	m	m	m	37.0	55.4	m	m	m	26.0	m	m	m	26.7	25.3
	Italy	32.8	27.7	m	m	26.7	39.2	23.3	25.4	30.6	0.7	m	m	m	0.7	0.8
	Japan	39.4	m	38.6	m	43.7	34.9	m	m	m	27.2	m	26.5	m	20.0	34.8
	Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Luxembourg	5.3	4.5	m	m	5.1	5.6	22.6	24.4	29.0	n	m	m	m	n	n
	Mexico	18.1	16.9	m	m	16.6	19.6	22.7	23.9	25.9	1.2	1.2	m	m	1.4	1.1
	Netherlands	41.4	37.9	38.9	35.8	36.5	46.4	21.6	23.4	26.5	n	m	m	m	n	n
	New Zealand	48.3	35.5	38.6	27.0	38.2	58.2	21.6	23.8	35.5	21.3	13.0	17.3	9.5	18.0	24.4
	Norway	41.5	33.8	41.1	33.5	30.6	52.7	22.9	25.2	30.9	0.6	0.3	m	m	0.5	0.8
	Poland	50.0	41.5	m	m	36.4	64.0	24.2	25.7	28.3	0.1	0.1	m	m	n	0.2
	Portugal	45.3	36.3	m	m	35.6	55.4	22.8	25.0	31.2	2.4	2.3	m	m	1.3	3.6
	Slovak Republic	57.1	43.3	m	m	38.1	76.9	22.9	24.7	31.4	0.9	0.7	m	m	0.5	1.3
	Spain	33.1	m	m	m	25.5	41.1	m	m	m	14.2	13.1	m	m	12.8	15.8
	Sweden	39.9	27.0	37.0	24.8	27.8	52.5	24.8	27.5	35.3	5.9	4.0	5.9	4.0	4.9	6.9
	Switzerland	32.4	25.0	m	m	31.7	33.2	24.5	26.9	32.6	18.7	m	m	m	24.0	13.3
	Turkey	19.5	m	m	m	20.6	18.4	m	m	m	13.3	11.5	m	m	14.4	12.2
	United Kingdom	34.9	31.9	m	m	29.7	40.2	20.6	21.6	23.7	15.8	7.8	m	m	11.1	20.4
	United States	37.3	m	34.5	m	31.0	43.9	m	m	m	10.2	m	10.0	m	7.4	13.1
	OECD average	***38.0***				***30.4***	***45.9***	***23.1***	***25.2***	***30.5***	***9.5***				***8.4***	***10.7***
	EU19 average	***38.2***				***29.7***	***47.1***	***23.3***	***25.2***	***29.8***	***6.5***				***5.6***	***7.4***
Partner countries	**Brazil**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	36.5	26.9	m	m	30.0	43.1	25.0	27.2	31.8	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	20.1	17.0	m	m	12.9	28.0	25.1	26.6	29.0	26.1	14.2	m	m	19.0	34.0

Note: Please refer to Annex 1 for information on the method used to calculate graduation rates (gross rates *versus* net rates) and the corresponding typical ages.

Mismatches between the coverage of the population data and the graduate data mean that the graduation rates for those countries that are net exporters of students may be underestimated, and those that are net importers may be overestimated. The adjusted graduation rates seek to compensate for these differences.

1. Adjusted graduation rates correspond to the graduation rates when international students are excluded.
2. Respectively 20%, 50% and 80% of first-time graduates are below this age.
3. Year of reference 2007.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310130

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Table A3.2.

Trends in tertiary graduation rates (1995-2008)

Sum of graduation rates for single year of age, by programme destination

		Tertiary-type 5A (first-time graduation)								Tertiary-type 5B (first-time graduation)							
		1995	2000	2003	2004	2005	2006	2007	2008	1995	2000	2003	2004	2005	2006	2007	2008
OECD countries	Australia	m	36	50	51	50	50	49	m	m	m	m	m	m	m	18	m
	Austria	10	15	19	20	20	21	22	25	m	m	m	7	8	7	7	8
	Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Canada	27	27	28	29	29	31	34	m	m	m	m	m	m	m	30	m
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	13	14	17	20	25	29	35	36	6	5	4	5	6	6	5	5
	Denmark	25	37	43	44	46	45	47	47	8	10	14	11	10	10	11	11
	Finland	20	41	48	47	48	48	48	63	34	7	1	n	n	n	n	n
	France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Germany	14	18	18	19	20	21	23	25	13	11	10	10	11	11	10	10
	Greece	14	15	20	24	25	20	18	m	5	6	9	11	12	12	12	m
	Hungary	m	m	m	29	36	30	29	30	m	m	m	3	4	4	4	4
	Iceland	20	33	45	51	56	63	63	57	10	6	7	5	4	4	2	4
	Ireland	m	30	37	39	38	39	45	46	m	15	19	20	24	27	24	26
	Italy	m	19	m	36	41	39	35	33	m	n	m	n	n	n	m	1
	Japan	25	29	34	35	36	39	39	39	28	29	26	26	27	28	28	27
	Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	5	m	m	m	m	m	m	m	n
	Mexico	m	m	m	m	m	m	m	18	m	m	m	m	m	m	m	1
	Netherlands	29	35	38	40	42	43	43	41	m	m	m	m	n	n	n	n
	New Zealand	33	50	49	50	51	52	48	48	12	17	20	21	21	24	20	21
	Norway	26	37	39	45	41	43	43	41	6	6	5	3	2	1	1	1
	Poland	m	34	44	45	45	47	49	50	m	m	n	n	n	n	n	n
	Portugal	15	23	33	32	32	33	43	45	6	8	7	8	9	9	6	2
	Slovak Republic	15	m	25	28	30	35	39	57	1	2	2	3	2	1	1	1
	Spain	24	30	32	33	33	33	32	33	2	8	16	17	17	15	14	14
	Sweden	24	28	35	37	38	41	40	40	m	4	4	4	5	5	5	6
	Switzerland	9	12	22	26	27	30	31	32	13	14	12	12	8	10	18	19
	Turkey	6	9	11	11	11	15	m	20	m	m	m	m	m	11	12	13
	United Kingdom[1]	m	37	38	39	39	39	39	35	m	m	14	16	17	15	15	16
	United States	33	34	32	33	34	36	37	37	9	8	9	9	10	10	10	10
	OECD average	*20*	*28*	*33*	*35*	*36*	*37*	*39*	*38*	*11*	*9*	*10*	*9*	*9*	*9*	*11*	*8*
	OECD average for countries with 1995 and 2008 data	*20*							*40*	*11*							*10*
	EU19 average	*18*	*27*	*32*	*33*	*35*	*35*	*37*	*38*	*9*	*7*	*8*	*8*	*8*	*8*	*8*	*6*
Partner countries	Brazil	m	10	15	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	m	m	31	32	35	36	37	36	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	m	m	m	m	18	21	20	20	m	m	m	m	24	26	25	26

Note: Years 2001 and 2002 are available for consultation on line (see *Statlink* below).
Up to 2004, graduation rates at the tertiary-type A or B levels were calculated on a gross basis. From 2005 and for countries with available data, graduation rates are calculated as net graduation rates (*i.e.* as the sum of age-specific graduation rates). Please refer to Annex 1 for information on the method used to calculate graduation rates (gross rates *versus* net rates) and the corresponding typical ages.
1. Break in time series following methodological change in 2008.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310130

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Table A3.3.

Graduation rates at different tertiary levels, impact of international/foreign students (2008)

Sum of graduation rates for single year of age, by programme destination

		Tertiary-type B programmes (first degree)		Tertiary-type A programmes (first degree)		Tertiary-type A programmes (second degree)		Advanced research programmes	
		Graduation rate (all students)	Adjusted graduation rate (without international/foreign students)	Graduation rate (all students)	Adjusted graduation rate (without international/foreign students)	Graduation rate (all students)	Adjusted graduation rate (without international/foreign students)	Graduation rate (all students)	Adjusted graduation rate (without international/foreign students)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD countries	Australia[1]	19.9	13.9	59.2	44.7	17.9	7.6	1.9	1.5
	Austria	7.8	7.6	25.0	22.5	4.6	4.0	1.9	1.5
	Belgium[2]	29.3	26.4	27.8	24.9	14.6	11.8	1.3	1.0
	Canada[1]	32.5	31.0	40.0	37.3	9.1	7.5	1.1	0.9
	Chile	14.8	14.8	16.0	16.0	4.3	4.0	0.1	0.1
	Czech Republic[2]	5.0	4.9	37.3	34.7	15.3	14.6	1.4	1.3
	Denmark	11.8	11.4	46.5	45.2	16.9	16.1	1.5	1.4
	Finland	n	m	82.0	80.0	0.8	x(4)	2.3	2.1
	France[2]	25.0	m	35.4	31.7	14.0	11.0	1.4	1.0
	Germany	10.1	m	25.5	23.7	2.2	1.6	2.5	2.1
	Greece	14.7	m	23.6	m	5.3	m	0.9	m
	Hungary[2]	4.7	4.7	34.3	33.1	4.5	4.5	0.7	0.7
	Iceland[2]	4.4	4.2	57.4	56.7	16.1	15.4	0.5	0.4
	Ireland	26.0	25.8	46.1	45.6	19.2	19.1	1.3	1.3
	Italy[2]	0.7	0.7	32.8	32.1	m	m	m	m
	Japan	27.2	26.5	39.4	38.6	5.6	5.1	1.1	0.9
	Korea	30.2	m	43.4	m	8.9	m	1.1	m
	Luxembourg[2]	n	m	5.3	2.1	a	m	0.1	n
	Mexico	1.2	m	18.1	m	3.0	m	0.2	m
	Netherlands	n	m	44.7	42.3	15.8	15.2	1.6	m
	New Zealand	24.2	19.9	50.7	42.5	16.0	13.0	1.4	1.1
	Norway	0.7	m	44.9	44.6	10.6	10.2	1.8	1.7
	Poland	1.0	m	50.0	49.8	34.0	34.0	0.9	m
	Portugal[2]	2.4	2.4	45.3	44.1	6.7	6.5	3.0	2.7
	Slovak Republic[2]	0.9	m	57.1	56.5	14.5	m	1.9	m
	Spain	14.2	m	29.8	m	2.2	m	0.9	m
	Sweden	6.0	6.0	39.2	37.2	4.3	3.4	3.0	2.5
	Switzerland	24.7	m	30.4	27.5	11.1	9.0	3.3	1.8
	Turkey[2]	13.3	13.3	19.7	19.5	2.6	2.6	0.3	0.3
	United Kingdom	16.5	15.3	40.1	34.9	22.2	13.1	2.0	1.1
	United States	10.2	10.0	37.3	36.3	16.8	15.1	1.5	1.1
	OECD average	*12.2*		*38.2*		*10.6*		*1.4*	
	EU19 average	*12.9*		*39.6*		*9.1*		*1.6*	
Partner countries	Brazil	x(3)	m	27.7	m	1.2	m	0.4	m
	China	m	m	m	m	m	m	m	m
	Estonia	19.4	19.4	24.5	24.1	11.7	11.5	0.9	0.8
	India	m	m	m	m	m	m	m	m
	Indonesia	3.0	m	6.8	m	0.4	m	n	m
	Israel	m	m	36.5	m	14.4	m	1.4	m
	Russian Federation[2]	28.1	27.8	52.8	50.9	0.6	m	1.5	m
	Slovenia	28.9	28.7	22.2	21.9	4.0	3.9	1.3	1.3

Note: Please refer to Annex 1 for information on the method used to calculate graduation rates (gross rates *versus* net rates) and the corresponding typical ages.

Mismatches between the coverage of the population data and the graduate data mean that the graduation rates for those countries that are net exporters of students may be underestimated and those that are net importers may be overestimated. The adjusted graduation rates seek to compensate for that.

1. Year of reference 2007.

2. The graduation rates are calculated for foreign students (defined on the basis of their country of citizenship). These data are not comparable with data on international graduates and are therefore presented separately in Chart A3.5.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310130

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Table A3.4.

Structure of tertiary education: Main programme blocks (2008)

Proportion of graduations/graduates following the Bologna structures (or in programmes that lead to a similar degree in non-European countries)

		Proportion of graduations following the Bologna structures[1]	Of which:					Proportion of graduations outside Bologna structures[1] (ISCED levels 5A, 5B and 6)
			Degrees for less than 3 years but considered to be at tertiary level and part of the Bologna structure[1] (first degree)	Bachelor degrees 3-4 years of duration (first degree)	Master degrees 4-8 years of cumulative duration (second degree)	Long first degrees considered to be part of the Bologna structure[1] (duration 5 or more years)	Ph.D. and doctorates	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	Australia[2]	69	a	46	18	2	2	31
	Austria	32	n	20	7	n	5	68
	Belgium	71	a	55	14	a	2	29
	Canada	m	m	m	m	m	m	m
	Chile	m	m	m	m	m	m	m
	Czech Republic	66	a	45	18	a	3	34
	Denmark	100	15	55	23	4	2	n
	Finland	56	a	47	7	n	2	44
	France	87	25	32	18	9	2	13
	Germany	14	a	10	4	a	a	86
	Greece	m	m	m	m	m	m	m
	Hungary	3	a	1	n	n	2	97
	Iceland	100	5	71	20	2	1	n
	Ireland	100	m	75	23	m	2	a
	Italy	85	1	57	23	1	m	15
	Japan	m	m	m	m	m	m	m
	Korea	100	34	51	12	1	2	n
	Luxembourg	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m
	Netherlands	96	a	68	26	a	3	4
	New Zealand	56	n	47	7	n	1	44
	Norway	100	7	62	23	5	3	a
	Poland	100	a	37	41	21	1	a
	Portugal	57	a	48	3	6	n	43
	Slovak Republic	95	a	54	16	23	3	5
	Spain	4	n	n	4	n	n	96
	Sweden	100	3	44	25	21	6	n
	Switzerland	48	n	34	14	n	n	52
	Turkey	m	m	m	m	m	m	m
	United Kingdom	77	11	37	16	11	2	23
	United States	100	34	44	20	a	2	a
	OECD average	*71*	*6*	*43*	*16*	*4*	*2*	*29*
	EU19 average	*71*	*4*	*43*	*16*	*5*	*2*	*29*
Partner countries	Brazil	a	a	a	a	a	a	a
	Estonia	94	a	74	16	3	n	6
	Israel	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m
	Slovenia	5	a	3	1	n	n	95

1. Or in programmes that lead to a similar degree in non-European countries.
2. Year of reference 2007.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310130

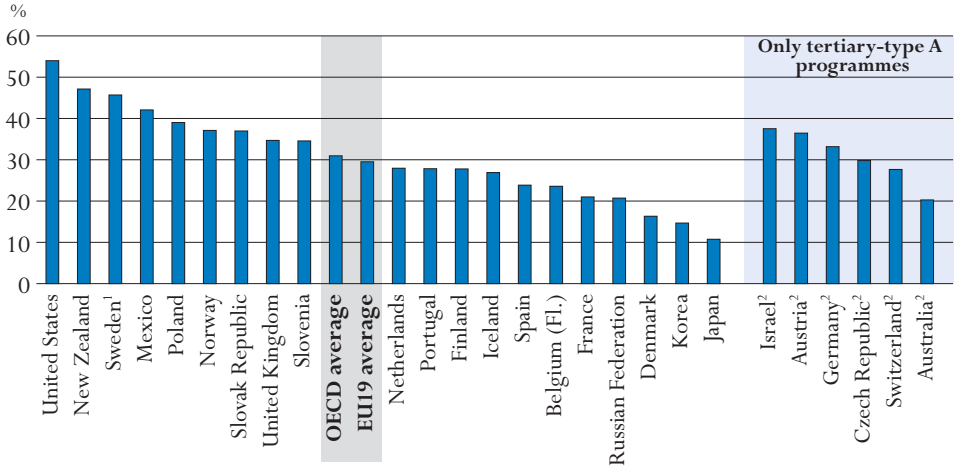
HOW MANY STUDENTS COMPLETE TERTIARY EDUCATION?

This indicator shows current tertiary completion rates in education systems, *i.e.* the percentage of students who follow and graduate from tertiary programmes. Although non-completion is not necessarily an indicator of failure from the individual student's perspective, high dropout rates may indicate that the education system is not meeting students' needs.

Key results

Chart A4.1. Proportion of students who enter tertiary education without graduating from at least a first degree at this level (2008)

On average, in the 18 OECD countries for which data are available, some 31% of tertiary students enter tertiary education without graduating from a programme equivalent to this level of education. Completion rates differ widely among OECD countries. In Mexico, New Zealand, Sweden and the United States, more than 40% of those who enter tertiary programmes do not graduate from at least a first degree at this level (in either a tertiary-type A or a tertiary-type B programme) in contrast to their counterparts in Belgium (Flemish Community), Denmark, France, Japan, Korea, Spain and the partner country the Russian Federation where the proportion is less than 25%. For countries in which only tertiary-type A data are available, the dropout rates vary from 38% in the partner country Israel to 20% in Australia.



Note: Some of the students who have not graduated may be still enrolled, or may have finished their education at a different institution than the one they started at, like in the United States.

1. Includes students entering single courses who may never intend to study all courses needed for a degree.

2. Tertiary-type A only.

Countries are ranked in descending order of the proportion of students who enter tertiary education without graduating from at least a first degree at this level.

Source: OECD. Table A4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310149

Other highlights of this indicator

- Tertiary-type B completion rates are, at 62%, somewhat lower than those for tertiary-type A, and there is wide country variation. Tertiary-type B completion rates range from 80% or above in Belgium (Flemish Community), Germany, Japan and Korea to below 40% in New Zealand, Portugal and the United States.

- Beginning but not completing a tertiary-type A programme does not necessarily represent a failure of the individual's curriculum if students benefit from the time spent in the programme and move successfully to the tertiary-type B education track and *vice versa*.

- Full-time students have a better chance of graduating from their courses than part-time students. The largest difference between full-time and part-time students is observed in New Zealand, where completion rates for full-time students who enter tertiary-type A education are 28 percentage points higher than those for students with part-time status.

- Non-completion of a degree does not mean that the skills and competences acquired will be lost and not valued by the labour market. This is particularly the case in countries where one year of study can provide students attractive opportunities for employment on the labour market. This helps explain students' decision to leave the education system before graduating. Similarly, some students who enter tertiary education (generally mature students) do not have the intention of graduating from a specific programme, but instead aim to study an individual subject or follow only a few courses as part of their lifelong learning – this is the case in New Zealand and in Sweden.

- There is no observable relationship between the charging of tuition fees and completion rates. In Australia, Japan, Korea, the Netherlands, New Zealand, the United Kingdom and the United States, where tuition fees charged by tertiary-type A educational institutions exceed USD 1 500, completion rates in tertiary-type A education are significantly lower than the OECD average in New Zealand and the United States but above 70% in the other countries. By contrast, Denmark, that has no tuition fees and a high level of public subsidies available for students, has completion rates above the OECD average (82%).

A4

Policy context

Tertiary completion rates can be a useful indicator of the internal efficiency of tertiary education systems. However, students may leave a tertiary programme for many reasons: they may realise that they have chosen a subject or educational programme that is not a good fit for them; they may fail to meet the standards set by their educational institution, particularly in tertiary systems that provide relatively broad access; or they may find attractive employment before completing their programme. Students may find that the educational programmes offered do not meet their expectations or their labour market needs. It may also be that programmes last longer than the number of years for which students can justify being outside the labour market.

Evidence and explanations

Completion rates in tertiary education

Overall tertiary completion rates count as "completing" students who enter a tertiary-type A programme and graduate with either a tertiary-type A or a tertiary-type B qualification, or those who enter a tertiary-type B programme and graduate with either a tertiary-type A or a tertiary-type B qualification. On average among the 18 OECD countries for which data are available in 2008, some 31% of tertiary students failed to graduate from a programme equivalent to this level of education. Completion rates differ widely among OECD and partner countries. In Mexico, New Zealand, Sweden and the United States, more than 40% of those who enter a tertiary programme do not graduate at tertiary level of education (either tertiary-type A or tertiary-type B) in contrast to their counterparts in Belgium (Flemish Community), Denmark, France, Japan, Korea, Spain and the partner country the Russian Federation, where the proportion is less than 25%. For countries for which only tertiary-type A data are available, the dropout rates vary from 38% in the partner country Israel to 20% in Australia (Chart A4.1).

The difference between the proportion of skilled jobs and the proportion of people with tertiary education (see Indicator A1) suggests that most countries may benefit from a further increase in the output of tertiary graduates. Increasing the proportion of students who enter a tertiary programme and leave with a tertiary qualification can help to improve the internal efficiency of tertiary education systems, especially when a small proportion of upper secondary graduates enter tertiary education (due to a highly selective process for entry, compared to a universal acceptance process) or when graduation rates are relatively low compared to the OECD average. In terms of three variables (entry, graduation and completion rates), two countries may have similar graduation rates but significant differences in the two other variables; they should therefore adopt different strategies to improve their internal efficiency. For example, Japan and Sweden had similar first-time graduation rates in 2008 (39% and 40%, respectively) but also significant differences in the level of entry and completion rates in tertiary-type A education. Whereas Japan counterbalanced below-average entry rates into tertiary-type A programmes (43% in 2003 against 53% for the OECD average) with the highest completion rate (93%) among OECD and partner countries, Sweden had an entry rate well above the average in 2003 (80%) but the lowest completion rate (49%) (see Indicators A2, A3 and Table A4.1).

Full-time students have a better chance of completing their studies than part-time students. However, in certain countries, some students who enter tertiary education (generally mature students) do not have the intention of graduating from a specific programme, but instead aim to

study an individual subject or follow only a few courses as part of their lifelong learning. Despite their alternative goals, these students are still included in the category of new entrants in tertiary education, alongside more traditional full-time students. In New Zealand, where part-time study is common – completion rates for full-time students who enter tertiary-type A education are 28 percentage points higher than for students with part-time status – it is estimated that around one in five students complete all modules they enrol in, yet never enrol in enough modules to graduate from the qualification. This pattern tends to mask the performance of more traditional full-time students, which was at 74% in 2008 for the tertiary-type A education level (Tables A4.1 and A4.2).

Completion rates in tertiary-type A and tertiary-type B education

On average among the 23 OECD countries for which data are available, some 30% of tertiary-type A students do not graduate from the programme they enter. However completion rates differ widely among OECD countries. In Mexico, New Zealand, Sweden and the United States, fewer than 60% of those who enter tertiary-type A programmes graduate from their programme, in contrast to their counterparts in Australia, Denmark, Korea, Portugal, the United Kingdom and the partner country the Russian Federation where the completion rates are 80% or more, and in Japan where the rate is 93%. Tertiary-type B completion rates are, at 62% on average, somewhat lower than those for tertiary-type A programmes, and again there is wide variation among countries. Tertiary-type B completion rates range from 80% or above in Belgium (Flemish Community), Germany, Japan and Korea to below 40% in New Zealand, Portugal and the United States (Table A4.1).

OECD countries with low tuition fees in tertiary-type A education often debate whether they should increase those fees in order to improve completion rates. In fact, some OECD countries have already increased tuition fees (while exempting some students for academic merit), with the idea that higher fees will increase students' incentives to finish their studies quickly. However, it is difficult to see a relationship between completion rates in tertiary-type A programmes and the level of tuition fees charged by tertiary-type A institutions. The countries in which tuition fees charged by tertiary-type A public educational institutions exceed USD 1 500 and for which data on completion rates are available are Australia, Japan, Korea, the Netherlands, New Zealand, the United Kingdom and the United States (see Indicator B5). In New Zealand and the United States completion rates are significantly lower than the OECD average of 70%, but in the other countries, the rates exceed the average. By way of contrast, Denmark does not charge tuition fees and does provide a high level of public subsidies for students, but has a completion rate of 82% (above the OECD average). These results are not surprising since all indicators on tertiary education, and especially on rates of return, show that compared to upper secondary attainment, tertiary-type A educational attainment significantly benefits individuals in terms of earnings and employment. This can create a sufficiently large incentive, independently of the level of tuition fees, for students to finish their studies (see Indicator A8).

Consequences of non-completion of tertiary-type A programmes

Beginning a tertiary-type A programme but not graduating is not necessarily linked to failure if students can be successfully re-oriented towards tertiary-type B education and *vice versa*. In France, a significant proportion of students (15%) do not complete tertiary-type A level but are successfully re-oriented to tertiary-type B level. In other words, in France, out of 100 students who start a tertiary-type A programme, 64 will receive at least a first tertiary-type A

qualification, 15 will be re-oriented to a tertiary-type B programme and only 21 will leave without a tertiary qualification. To a lesser extent, in both Denmark and New Zealand, 3% of students who do not complete the tertiary-type A level are successfully re-oriented to the tertiary-type B level. Re-orientation is more frequent in tertiary-type B education: in Iceland, New Zealand and Sweden, 21%, 7% and 9%, respectively, of students who do not complete this level are re-oriented to a tertiary-type A programme. Among these countries, only New Zealand has a large proportion of students enrolled in tertiary-type B education (Table A4.1).

Non-completion of a degree does not mean that the skills and competences acquired are lost and not valued by the labour market in the given countries. In Sweden and the United States, students can leave a tertiary-type A programme before completing it, be employed for some time, and decide to continue their studies at a later date. They do not lose the benefit of the modules completed in the past. Furthermore, in countries with modular systems like Sweden, it has to be taken into account that students receive credit points for each course they have completed. Even if they have studied enough to graduate, they might not apply for a diploma as the credit points from the individual courses for many programmes are recognised as equivalent by the labour market.

The extent to which non-completion of tertiary education is a policy problem will vary among countries and completion rates should be interpreted with caution. It will be interesting to see if future changes in the labour market will have an effect on the incentives for individuals to graduate from tertiary studies. If there is further expansion of tertiary education over the next decade (a feasible option in most countries), completion of tertiary programmes will be more highly valued on the labour market and the benefit of entering tertiary education without graduating with at least a first degree will be eroded (see Indicator A1).

Box A4.1. Interaction between entry rates, graduation rates and completion rates

These three indicators are highly correlated and complementary in order to explain and interpret the main differences between tertiary education systems across countries. A change in one of these factors can affect the others. Entry and graduation rates are based on total population, unlike completion rates, which are compiled from an entry cohort at a certain level of education. Data on graduates and new entrants are based on the UOE annual data collection. Completion rates were collected through a special survey undertaken in 2009-10.

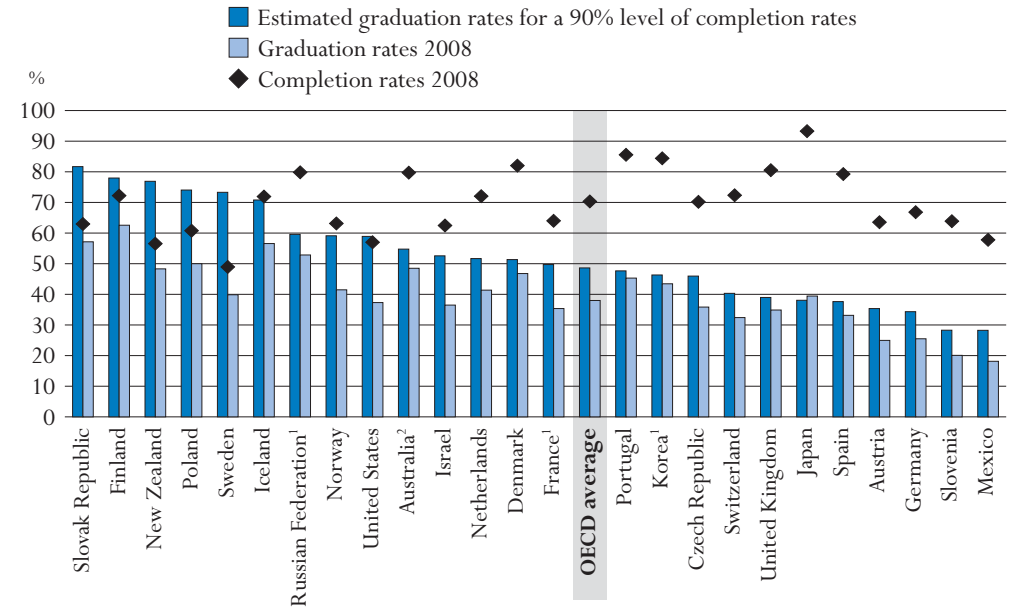
The definitions of entry rates, graduation rates and completion rates (see Definitions and methodologies section) shed light on the relationships among them. In reality, completion rates do not correspond to the simple division of graduation by entry rates, but a significant change in entry rates or in completion rates will definitely influence the indicator on graduation rates. A significant increase/decrease in the tertiary completion rates should have a direct impact on the tertiary graduation rates if the tertiary entry rates remain stable over the same time period. Similarly, a significant increase/decrease in the indicator on entry rates into tertiary education can have a direct impact on tertiary graduation rates if the tertiary completion rates remain stable.

As mentioned previously in the text, completion rates differ widely among OECD countries. Japan is at the top end with over 90% of students succeeding while in Sweden, about one out of two students leave without at least a first degree. ....

For countries with low completion rates (bearing in mind that in some countries there may be many reasons why students do not complete a degree), policy makers have much room to manoeuvre to raise the number of graduates and meet labour force needs. Similarly, in countries with low access to tertiary programmes compared to the OECD average, high completion rates compared to the average can counterbalance the first factor and maintain the graduation rates at the level of the OECD average.

In 12 of the 25 countries for which data are available on tertiary-type A level, more than 3 students out of 10 have not graduated from the level of studies they initially pursued. If in these countries entry rates were maintained and completion rates were increased to the same level as that of Japan (around 90%), graduation rates would sharply increase (Chart A4.2).

Chart A4.2. Estimated graduation rates for a 90% level of completion rates at tertiary-type A level of education, considering that the level of entry rates remains constant (2008)



1. First-degree graduation rates instead of first-time graduation rates.
2. Year of reference 2007.

Countries are ranked in descending order of the estimated graduation rates for a 90% level of completion rates in 2008.

Source: OECD. Tables A3.1, A3.3 and A4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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In Australia, New Zealand and the Nordic countries, entry rates have been well over the OECD average for a long time (see Indicator A2). These countries facilitate access to tertiary education for all types of students (*e.g.* international students or adults). Different types of students may engage in tertiary studies for reasons slightly different than those of the normal generation of students (*i.e.* they may enter a programme without the will to graduate or they may decide to follow a part-time programme in order to finance their studies with a job and therefore graduate later). It follows that compared to the level of their entry rates, these countries have a relatively low level of graduation rates and thus considerable room for improvement.

A4

Definitions and methodologies

Data on completion rates were collected through a special survey undertaken in 2009-10. The calculation of the completion rate is defined from a cohort analysis in one-half of the countries listed in Table A4.1 (true cohort method). Estimates for the other countries assume constant student flows at the tertiary level, owing to the need for consistency between the graduate cohort in the reference year and the entrant cohort *n* years before (cross-section method). This assumption may be an oversimplification (see Annex 3 at *www.oecd.org/edu/eag2010*).

Net entry rates are the estimated percentage of an age cohort that will enter tertiary education for the first time in its lifetime. Net entry rates are defined as the sum of all net entry rates for single ages. The total net entry rate is therefore the sum of the proportions of new entrants into tertiary-type A and tertiary-type B programmes aged *i* to the total population aged *i*, at all ages. Since data by single year are only available for ages 15 to 29, net entry rates for older students are estimated from data for five-year age bands. Entry rates therefore provide an indication of the accessibility of tertiary education as well as of the perceived value of attending tertiary programmes (see Indicator A2).

Graduation rates correspond to the estimated percentage of an age cohort that will complete tertiary education, based on current patterns of graduation (see Annex 1). Net graduation rates are calculated in the same way as entry rates. Graduation rates provide an indication of the current production of higher-level knowledge by each country's education system (see Indicator A3).

Completion rates are defined as the proportion of new entrants into a specified level of education who graduate from at least a first degree at this level. The rates are calculated as the ratio of the number of students who graduate from an initial degree during the reference year to the number of new entrants in this degree *n* years before, *n* being the number of years of full-time study required to complete the degree.

Dropouts are defined as students who leave the specified level of education without graduating from a first qualification at that level. The first qualification refers to any degree, regardless of the duration of study, obtained at the end of a programme that does not have a previous degree at the same level as a pre-requisite. For some countries, it is difficult to distinguish interruptions of studies from dropouts.

A4

Table A4.1.

Completion rates in tertiary education (2008)

Calculated separately for tertiary-type A and tertiary-type B programmes: number of graduates from these programmes divided by the number of new entrants into these programmes in the typical year of entrance

		Method	Year used for new entrants		Tertiary education		Tertiary-type A education		Tertiary-type B education	
					Completion rates (at least first 5B or 5A programme)[1]	Not graduated from tertiary education[2]	5A completion rates (at least first 5A programme)[3]	Not graduated from 5A level but re-oriented with success at 5B level	5B completion rates (at least first 5B programme)[4]	Not graduated from 5B level but re-oriented with success at 5A level
			5A	5B	(1)	(2)	(3)	(4)	(5)	(6)
OECD countries	**Australia**	Cross-section	2003-05	m	m	m	80	m	m	m
	Austria	Cross-section	2002-05	m	m	m	64	m	m	m
	Belgium (Fl.)	Cross-section	2005-06	2005-06	76	24	72	m	80	m
	Canada	m	m	m	m	m	m	m	m	m
	Chile	m	m	m	m	m	m	m	m	m
	Czech Republic	True cohort	2001	m	m	m	70	m	m	m
	Denmark	Cross-section	1997-98	1997-98	84	16	82	3	77	3
	Finland	True cohort	1995-2005	a	72	28	72	a	a	a
	France	True cohort	1996-2003	1996-2003	79	21	64	15	78	2
	Germany	True cohort 5A, cross-section 5B	1999-2000	1995-97	m	m	67	n	80	n
	Greece	m	m	m	m	m	m	m	m	m
	Hungary	m	m	m	m	m	m	m	m	m
	Iceland	True cohort	1998-99	1998-99	73	27	72	1	63	21
	Ireland	m	m	m	m	m	m	m	m	m
	Italy	m	m	m	m	m	m	m	m	m
	Japan	Cross-section	2002-04	2006	89	11	93	m	84	m
	Korea	Cross-section	2000-02	2002-04	85	15	84	m	86	m
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	Cross-section	2004-05	2006-07	58	42	58	a	60	a
	Netherlands	True cohort	1999	a	72	28	72	a	a	a
	New Zealand	True cohort	2001	2001	53	47	57	3	35	7
	Norway	True cohort	1997-98	1997-98	63	37	63	m	60	m
	Poland	Cross-section	2003-06	2005-06	61	39	61	m	73	m
	Portugal	Cross-section	2003-08	2006	72	28	86	m	17	m
	Slovak Republic	Cross-section	2002-05	2005-07	63	37	63	m	68	m
	Spain	Cross-section	2003-06	2005-07	76	24	79	m	70	m
	Sweden[5]	True cohort	1999-2000	1999-2000	54	46	49	1	52	9
	Switzerland	True cohort	1998-2003	m	m	m	72	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m
	United Kingdom	Cross-section	Various	2005-06	65	35	81	m	45	m
	United States[6]	True cohort	2001	2004	46	54	57	m	28	m
	OECD average				***69***	***31***	***70***	***~***	***62***	***~***
	EU19 average				***70***	***30***	***70***	***~***	***53***	***~***
Partner countries	**Brazil**	m	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m	m	m
	Israel	Cross-section	2002	m	m	m	62	m	m	m
	Russian Federation	Cross-section	2003-04	2004-05	79	21	80	m	78	m
	Slovenia	Cross-section	2001-02	2001-02	65	35	64	m	67	m

Note: The cross-section method refers to the number of graduates in the calendar year 2008 and is calculated according to the traditional OECD approach, taking into account different durations. True cohort method is defined from a cohort analysis and based on panel data.

1. Completion rates in tertiary education represent the proportion of those who enter a tertiary-type A or a tertiary-type B programme and go on to graduate from either at least a first tertiary-type A or a first tertiary-type B programme.
2. Column 2 corresponds to 100 minus Column 1.
3. Completion rates in tertiary-type A education represent the proportion of those who enter a tertiary-type A programme and go on to graduate from at least a first tertiary-type A programme.
4. Completion rates in tertiary-type B education represent the proportion of those who enter a tertiary-type B programme and go on to graduate from at least a first tertiary-type B programme.
5. Includes students entering single courses who may never intend to study all courses needed for a degree.
6. Includes full-time students who graduated from their entry institution within 6 years.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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A4

Table A4.2.

Completion rates in tertiary-type A education, by mode of enrolment (2008)

Proportion of those who enter a tertiary-type A programme, and go on to graduate from at least a first tertiary-type A programme, by mode of enrolment

		Method	Year used for new entrants		Porportion of new entrants enrolled[1] in		5A completion rates (at least first 5A programme)	
			5A	5B	Full-time (1)	Part-time (2)	Full-time (3)	Part-time (4)
OECD countries	**Australia**	m	m	m	m	m	m	m
	Austria	Cross-section	2002-05	m	100	a	64	a
	Belgium (Fl.)	Cross-section	2005-06	2005-06	m	m	m	m
	Canada	m	m	m	m	m	m	m
	Chile	m	m	m	m	m	m	m
	Czech Republic	True cohort	2001	m	m	m	71	m
	Denmark	Cross-section	1997-98	1997-98	m	m	82	m
	Finland	True cohort	1995-2005	a	m	m	m	m
	France	m	m	m	m	m	m	m
	Germany	m	1992-95	1995-97	m	m	m	m
	Greece	m	m	m	m	m	m	m
	Hungary	m	m	m	m	m	m	m
	Iceland	True cohort	1998-99	1998-99	81	19	74	63
	Ireland	m	m	m	m	m	m	m
	Italy	m	m	m	m	m	m	m
	Japan	Cross-section	2002-04	2006	98	2	93	m
	Korea	Cross-section	2000-02	2002-04	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m
	Mexico	Cross-section	2004-05	2006-07	100	a	58	a
	Netherlands	True cohort	1997-98	1997-98	90	10	73	57
	New Zealand	True cohort	2001	2001	38	62	74	46
	Norway	True cohort	1997-98	1997-98	88	12	65	49
	Poland	Cross-section	2003-06	2005-06	49	51	66	56
	Portugal	Cross-section	2003-08	2006	m	m	m	m
	Slovak Republic	Cross-section	2002-05	2005-07	64	36	62	65
	Spain	Cross-section	2003-06	2005-07	m	m	m	m
	Sweden	True cohort	1999-2000	1999-2000	m	m	m	m
	Switzerland	True cohort	1998-2003	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m
	United Kingdom	Cross-section	Various	2005-06	92	8	m	m
	United States[2]	True cohort	2001	2004	m	m	57	m
	OECD average				***80***	***20***	***70***	~
	EU19 average				***79***	***21***	***69***	~
Partner countries	**Brazil**	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m
	Israel	Cross-section	2002	m	80	20	m	m
	Russian Federation	Cross-section	2003-04	2004-05	54	46	78	83
	Slovenia	Cross-section	2001-02	2001-02	m	m	m	m

Note: The cross-section method refers to the number of graduates in the calendar year 2008 and is calculated according to the traditional OECD approach, taking into account different durations. True cohort method is defined from a cohort analysis and based on panel data.

1. Based on the data collected in the 2009-10 OECD survey.
2. Includes full-time students who graduated from their entry institution within 6 years.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310149

HOW MANY ADULTS PARTICIPATE IN EDUCATION AND LEARNING?

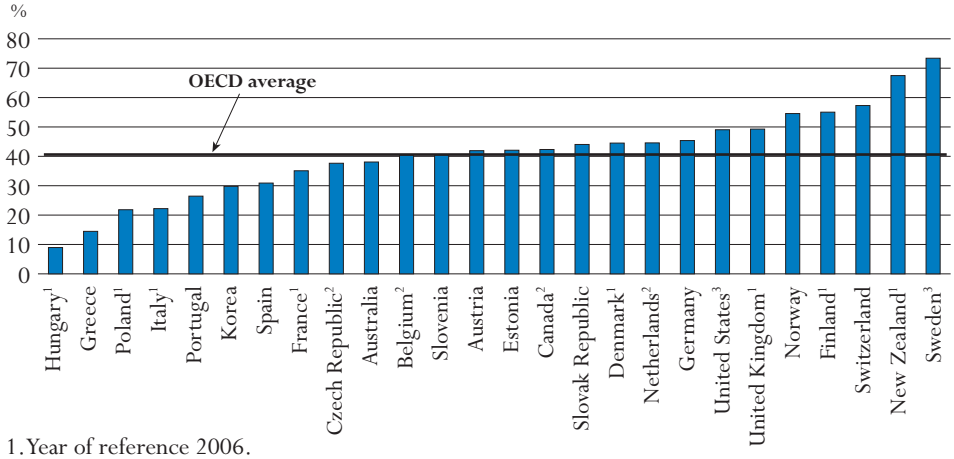
This indicator examines the participation of the 25-64 year-old population in formal and/or non-formal education and investment in non-formal education. It shows the extent to which adults seek information on learning possibilities and its relation to participation rates. Other determinants of participation in education and learning examined are previous educational attainment, age and gender, labour force status, and characteristics of the workplace.

Key results

Chart A5.1. Participation in formal and/or non-formal education (2007)

This chart shows the participation of the 25-64 year-old population in formal and/or non-formal education in 2007.

Investment in education and training after leaving initial education is essential for upgrading labour force skills and increasing overall skill levels in the economy. Participation rates indicate how far-reaching such investment is in different countries. Across the OECD, more than 40% of the adult population participates in formal and/or non-formal education in a given year. Countries differ significantly, however. In New Zealand and Sweden, more than 60% of the population is involved in some sort of formal and/or non-formal education over the course of a year, whereas in Hungary and Greece less than 15% of the population is engaged.



1. Year of reference 2006.
2. Year of reference 2008.
3. Year of reference 2005.

Countries are ranked in ascending order of participation in education.

Source: OECD, LSO network special data collection, Adult Learning Working Group. Table A5.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310168

Other highlights of this indicator

- Adults with higher educational attainment are more likely to participate in formal and/or non-formal education than adults with lower attainment. On average for the OECD, individuals with tertiary education have an advantage in the involvement in educational activities – they are almost three times more likely to be involved in educational activities than those with low levels of education.

- 52% of all adults have not participated in formal and/or non-formal education and have not looked for information on learning activities. More than two-thirds of the 25-64 year-old population remained outside of both the education and training system, and the information and guidance system in Greece, Hungary, Italy, Poland and Portugal, while two-thirds participated in Finland, the Netherlands, Sweden and the United Kingdom.

- 25-34 year-old individuals are almost twice as likely to participate in adult learning as older individuals (55-64 year-olds). Differences in participation rates of males and females in formal and/or non-formal education are generally small and are 5 percentage points or greater only in eight countries. In Canada, Finland, Sweden, the United States and the partner country Estonia, the participation rates of females are higher, while the difference between the genders favours males in the Czech Republic, Germany and the Netherlands.

- Workplace aspects such as industry and occupation strongly influence participation in adult learning. Across the OECD, 61% of those employed in high-skilled white collar occupations engage in adult education, the rate drops to 46% in low-skilled white collar occupations, to 34% in high-skilled blue collar occupations and then to 32% in low-skilled blue collar occupations.

A5

Policy context

Further investment in education and training following initial education is essential to upgrade labour force skills and increase an economy's overall skill level. One of the goals of adult education and learning is to develop the skills for the knowledge society and economy, for today's and future labour market. Globalisation and changes in technologies, employment, work organisation and demographics increase the level and range of skills and knowledge required in the workplace.

Globalisation: New technologies, allied with government trade policies, have broadened the international marketplace for goods and services. This has increased competition for skills among countries and their citizens, particularly in high-growth, high-technology markets.

Technological change: In addition to fostering globalisation generally, the development of new information technologies has hastened the growth of knowledge-based industries that rely on a highly skilled workforce. An ever-larger segment of the workforce (and the population) must be prepared to adapt to changing technologies in order to function effectively.

Changes in employment: Employment has shifted from agriculture and manufacturing to the services industries. Studies have shown "an increase in the application of skills within occupations" (OECD and Statistics Canada, 2000, p.8), such as communication skills, social skills and problem-solving. Continuing education and training can help prepare the current workforce, particularly older workers, to adapt to the changes in their working environment.

Changes in the organisation of work: In response to increased competitive pressures, firms are moving towards "flexible management" practices, which give more responsibility and autonomy to lower-level workers and thus increase their need for higher-level skills.

Demography: OECD countries have ageing populations and an ageing workforce. To maintain or increase the skill levels of the workforce, the "old" solution – to recruit ever better educated and skilled young people – will not suffice. Developing the skills of the existing workforce, including older workers, is indispensable.

Adult learning, as part of lifelong learning, is considered crucial for coping with the challenges of economic competitiveness and demographic change, and for combating unemployment, poverty and social exclusion, which marginalise a significant number of individuals in all countries. To this end, other policy goals for adult education include:

- encourage lifelong learning also for non-economic goals such as personal fulfilment, improved health, civic participation, social inclusion, reduced levels of crime and environmental protection;
- improve demand for, access to, and success in learning opportunities (general and workplace-based; formal, non-formal and informal) for the low-skilled and others who face barriers or are under-represented;
- support learning strategies leading to active participation of older persons in employment and in society;
- enhance investments in adult learning by both public and private sectors; and
- improve the provision of information, guidance and counselling to motivate, inspire and raise confidence to engage in learning, at all stages of life, especially for information- and assistance-deprived groups.

Evidence and explanations

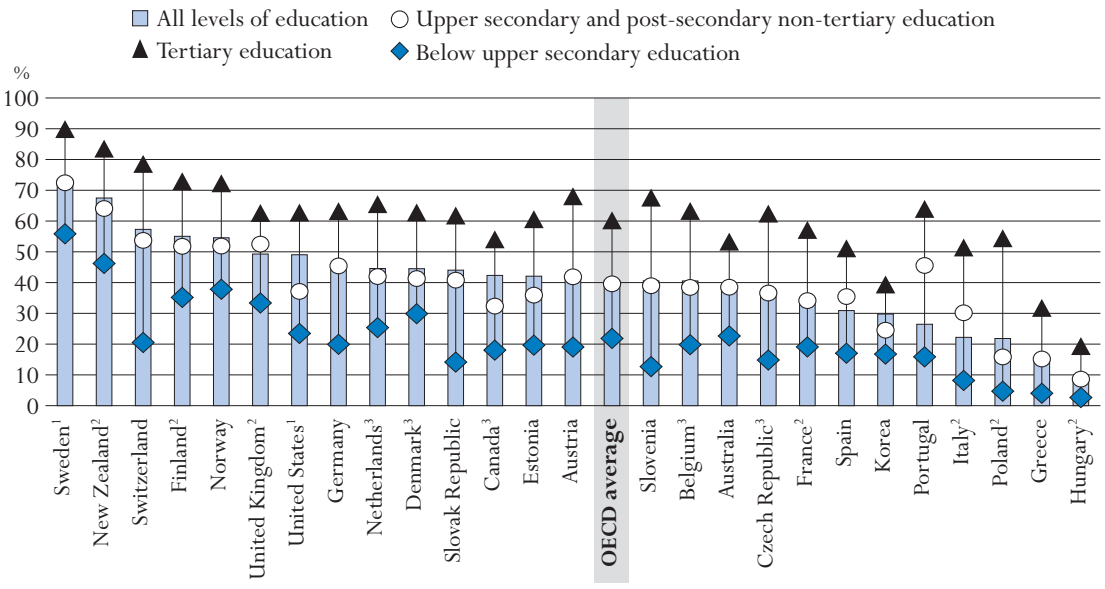
Large country differences in adult learning

There is substantial cross-country variation in the participation of adults in formal and/or non-formal education and training. Across the OECD, more than 40% of the 25-64 year-old population participates in at least one formal and/or non-formal education activity in a given year. Two countries – New Zealand and Sweden – take the lead with more than 60% of the adult population involved in education and training; in Greece and Hungary less than 15% of the population participates. Between these two extremes, the incidence of adult education varies greatly; it is less than 25% in Italy and Poland, but up to 50% or more in Finland, Norway and Switzerland (Chart A5.1). In the case of New Zealand, their rate is significantly influenced by a large percentage of adults attending short seminars, lectures, workshops or special talks, etc.

Training leads to further training

Despite the large differences in participation rates, a striking and common pattern is found: participation rates vary according to prior levels of educational attainment. All countries have inequalities in terms of access to adult learning. On average for the OECD countries surveyed, participation in formal and/or non-formal education is 20 percentage points higher for individuals who have attained tertiary education than for those with upper secondary or post-secondary non-tertiary education. The latter have a participation rate which is 18 percentage points higher than that of individuals who have not attained upper secondary education (Chart A5.2).

Chart A5.2. Participation in formal and/or non-formal education, by educational attainment (2007)



1. Year of reference 2005.
2. Year of reference 2006.
3. Year of reference 2008.

Countries are ranked in descending order of participation in formal and/or non-formal education, for all levels of education.

Source: OECD, LSO network special data collection, Adult Learning Working Goup. Table A5.1b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310168

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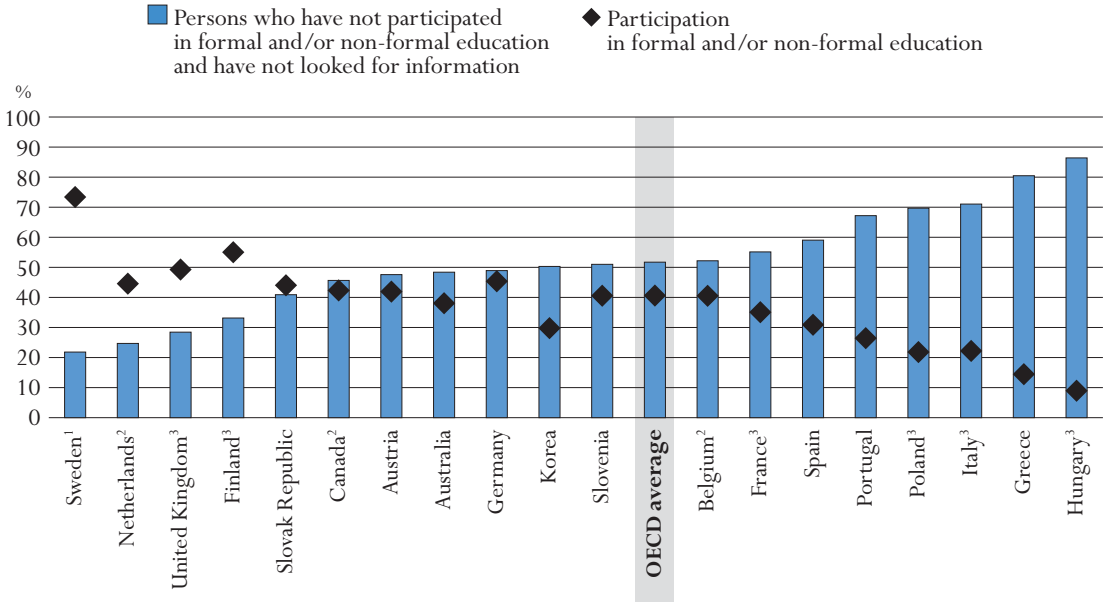
On average for the OECD, individuals with tertiary education have an advantage in the involvement in educational activities – they are almost three times more likely to be involved in educational activities than those with low levels of education. In general, this advantage in the involvement of the highly educated shows a strong negative relationship with the overall participation rates in adult education. In most countries with high overall participation rates the advantage of the highly educated is below the OECD average, and the reverse is true for countries with low participation rates. It is important to better understand the underlying causes of these differentials in order to help to promote lifelong learning among the less qualified.

The need to reach further

To increase participation in adult learning, effective information, guidance and counselling services can help create accessible learning environments, support learning at all ages and in a range of settings, and empower citizens to manage their learning and work. A special goal is to reach out to information- and assistance-deprived groups. Chart A5.3 shows the percentage of adults who have not participated in formal and/or non-formal education and have not sought information concerning learning possibilities within the last 12 months. The indicator attempts to measure the size of the population outside of both the education and training system, and the information and guidance system.

Chart A5.3. Persons who have not participated in formal/non-formal education and have not looked for information, and participation in formal and/or non-formal education (2007)



1. Year of reference 2005.
2. Year of reference 2008.
3. Year of reference 2006.

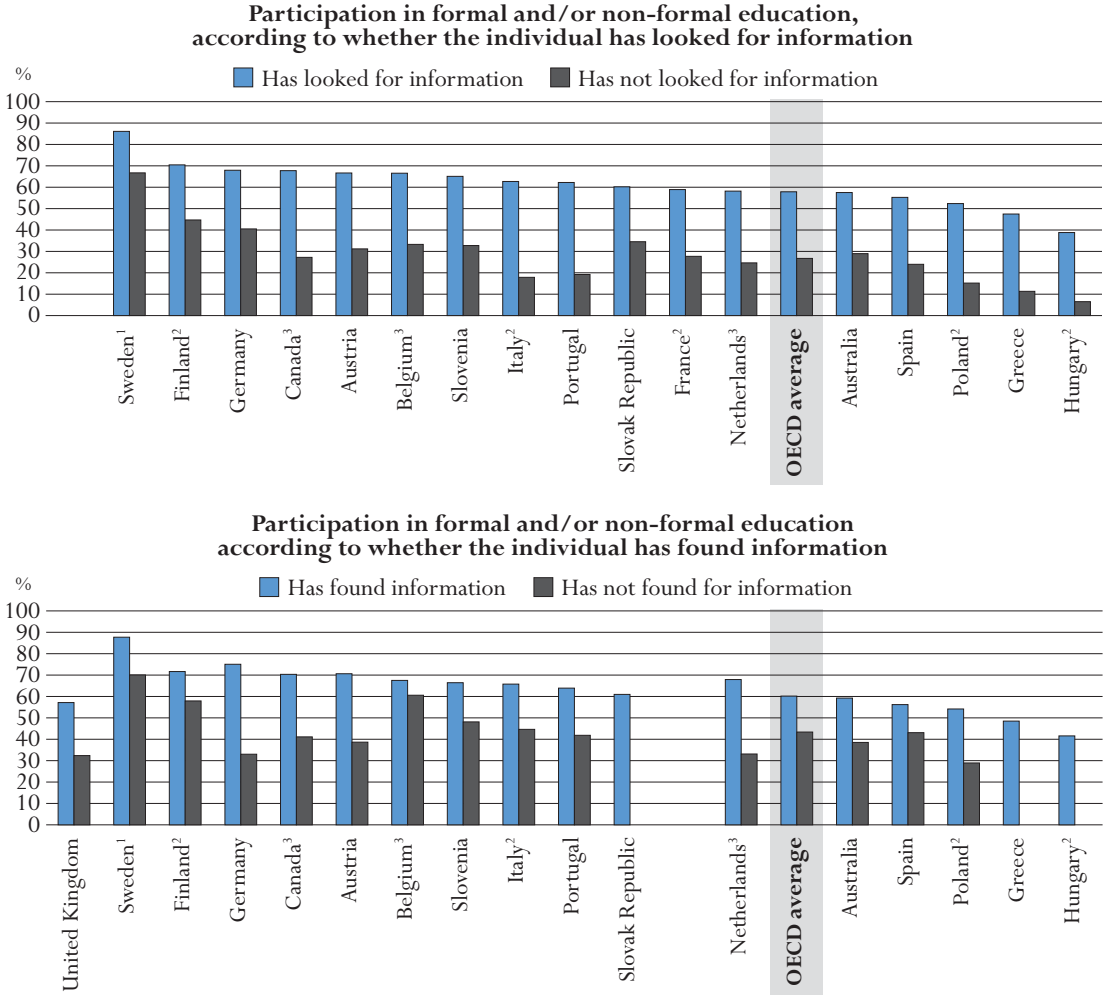
Countries are ranked in ascending order of non-participation in formal and/or non-formal education.

Source: OECD, LSO network special data collection, Adult Learning Working Group. Table A5.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310168

On average in the countries providing data, 52% of the 25-64 year-old population had no contact with either system, 41% participated in adult education and 7% looked for information but did not participate. Countries vary markedly on all three measures. More than two-thirds of the 25-64 year-old population remained outside the systems in Greece, Hungary, Italy, Poland and Portugal, while two-thirds participated in Finland, the Netherlands, Sweden and the United Kingdom. The relationship between the rate of participation in formal and/or non-formal education and the percentage of the population not seeking information about learning activities is negative.

Chart A5.4. Participation in formal and/or non-formal education, according to whether individuals have looked for and found information about learning activities (2007)



1. Year of reference 2005.
2. Year of reference 2006.
3. Year of reference 2008.

Countries are ranked by the participation rate of those who looked for information about learning activities.

Source: OECD, LSO network special data collection, Adult Learning Working Group. Table A5.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310168

Even among those who have not looked for information about learning possibilities in the 12 previous months, a sizeable 27% in the OECD countries with relevant data took part in educational activities (Chart A5.4). How is this possible? Probably the most important explanation is employer-sponsored training: workers are given training that they did not seek or choose. Another possibility is attendance at learning activities of fairly long duration, which continue without the need for further information by the participant.

Individuals who looked for information were twice as likely to participate in formal and/or non-formal education as those who did not. The relative difference is less than two times as likely to participate in Finland, Germany, the Slovak Republic and Sweden, but more than three times as likely in Greece, Hungary, Italy, Poland and Portugal (Table A5.3).

Participation by age and gender

Differences in participation in adult learning according to the age of the participants is well established: in most countries the youngest cohort of 25-34 year-olds participates the most in formal and/or non-formal education and in all countries the oldest cohort of 55-64 year-olds participates the least (Table A5.1a). On average, the youngest individuals are twice as likely to be involved in formal and/or non-formal education as the oldest age group. This may be because older individuals place less value on acquiring new skills and because employers propose training less frequently to older workers. The pattern of the decline in and extent of participation varies. In some countries, people tend to attend regular formal education well into their thirties, thus raising the participation of the youngest cohort.

Differences in participation rates of males and females in formal and/or non-formal education are generally small and are 5 percentage points or greater only in eight countries. In Canada, Finland, Sweden, the United States and the partner country Estonia, the participation rates of females are higher, while the difference between the genders favours males in the Czech Republic, Germany and the Netherlands (Table A5.1a). In all countries with the exception of New Zealand, the difference in participation rates in favour of individuals with higher educational attainment is more pronounced among females than males (Table A5.1b).

Participation by workplace aspects

Today's working world demands continuous development of skills and competences during working life. This translates into higher rates of participation in formal and non-formal education in the upper-tier service industries as well as in high-skilled white collar occupations, the typical locations of knowledge based workplaces. Across the OECD, 61% of those employed in high-skilled white collar occupations engage in adult education, the rate drops to 46% in low-skilled white collar occupations, to 34% in high-skilled blue collar occupations and then to 32% in low-skilled blue collar occupations (Table A5.4a).

All countries show this general pattern, except the Czech Republic and the Slovak Republic where the participation rate of workers in low-skilled blue collar occupations is significantly higher than that of workers in high-skilled blue collar occupations. Across the OECD, 58% of those employed in upper-tier service industries take part in adult education; the rate drops to 39% in lower-tier service industries and goods-producing industries, and to 35% in resource industries. However, the lowest participation rate is not found among workers in resource industries in

Canada, the Czech Republic, Finland, Germany, New Zealand, Norway, the Slovak Republic and Switzerland.

In practically every industry in all countries, the well-known pattern of higher participation in adult education of individuals with higher educational attainment is repeated, at different levels of participation, which reflect the overall participation rate of the industry and the country (see Table A5.4b, available on line). The industry, the educational attainment of the individual, and the general level of adult participation in learning all add to the likelihood of an individual developing his/her skill level. Extremely high participation is found among Swedish workers in the upper-tier service industries with tertiary education and extremely low participation among Hungarian workers in the resource industries with an educational attainment below upper secondary education.

Participation in job-related non-formal education

On average, two-thirds of all participants in formal and/or non-formal education participate in job-related non-formal education. The share of job-related participants is four out of five or more in the Czech Republic, Finland, France, Germany, the Netherlands, Norway, the Slovak Republic, Sweden and the partner country Estonia (Tables A5.1a and A5.5). Less than three out of five participants engage in job-related non-formal education in Australia, Denmark, Korea, New Zealand and Switzerland. In all countries the employed have higher participation rates in job-related non-formal education than the unemployed. Only in Finland, Germany, the Netherlands, Norway and Sweden do more than 10% of individuals who are not in the labour force participate in job-related education (Table A5.5).

Mean hours of instruction per participant in non-formal education

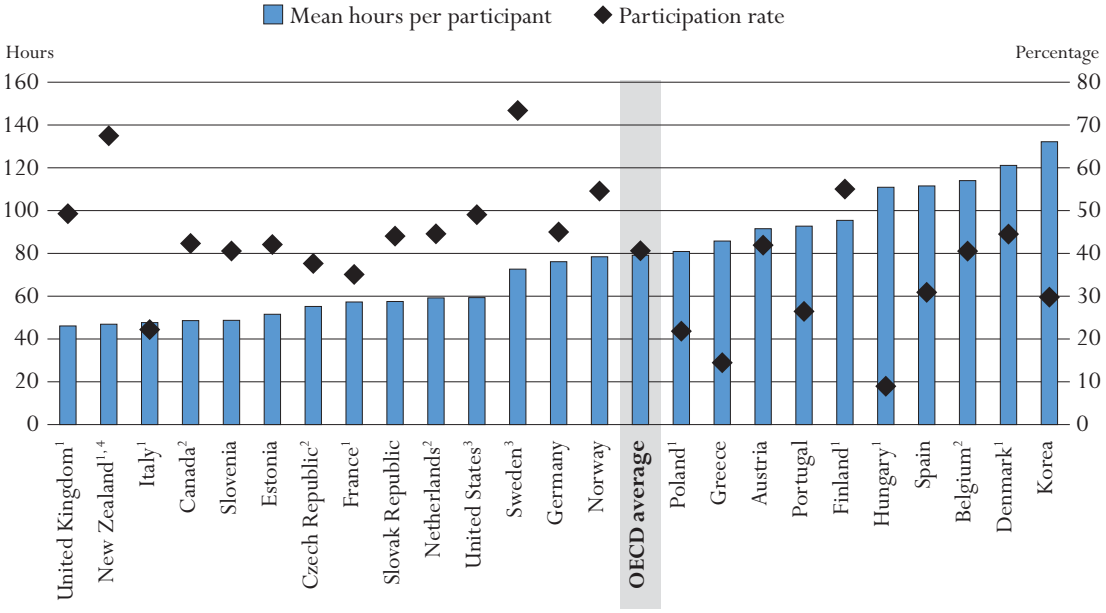
The time used for attending non-formal education activities represents an investment in the individual's skill development, generally by both the employer and the individual. The mean hours of instruction per participant in non-formal education partly reflect a balance between extensive and intensive participation (Chart A5.5). The correlation between participation rate and mean hours of instruction per participant is slightly negative. The mean hours of instruction range from more than 100 in Belgium, Denmark, Hungary, Korea and Spain to less than 50 in Canada, Italy, New Zealand, the United Kingdom and the partner country Slovenia. In all countries except Canada and Denmark, unemployed participants spend more time in instruction than employed participants (Table A5.6).

On average, the mean hours of instruction in non-formal education do not vary according to the educational attainment of the participants. The average hides two quite distinct patterns: in the Czech Republic, Greece, Korea, Poland, the Slovak Republic, Spain and Sweden and the partner country Slovenia participants with tertiary education spend on average more hours in education than participants who have not attained upper secondary education; the opposite is true for Belgium, Denmark, Germany, Hungary, the Netherlands, the United Kingdom and the United States.

Adult learning may be an effective means of combating unemployment, as individuals can develop skills that make them more attractive to employers. Given changes in technologies, work methods and markets, policy makers in many countries are promoting adult education.

Most countries have higher participation rates for the employed but longer mean hours of instruction per participant for the unemployed. This may reflect both the need for more intensive skill development among the unemployed and the fact that training for the employed competes with working time. Training for the unemployed is typically full-time training, offered through targeted programmes which can be of long duration.

Chart A5.5. Mean hours per participant and participation in non-formal education (2007)



1. Year of reference 2006.
2. Year of reference 2008.
3. Year of reference 2005.
4. Excluding adults who participated only in "short seminars, lectures, workshops or special talks".

Countries are ranked in ascending order of the mean hours per participant in non-formal education.

Source: OECD, LSO network special data collection, Adult Learning Working Group. Tables A5.1a and A5.6. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310168

Definitions and methodologies

A special OECD data collection is the basis for this indicator. Data for non-European countries were calculated from country-specific household surveys (see Annex 3). Data for countries in the European Statistical System come from the pilot EU Adult Education Survey (AES). The EU AES surveys were carried out by 29 countries in the EU, EFTA and candidate countries between 2005 and 2008. The EU AES is a pilot exercise which proposed for the first time a common framework, including a standard questionnaire, tools and quality reporting.

The indicator focuses on participation in formal and/or non-formal education. Formal education is defined as education provided in the system of schools, colleges, universities and other formal educational institutions, and which normally constitutes a continuous "ladder" of full-time

education for children and young people. Non-formal education is defined as an organised and sustained educational activity that does not correspond exactly to the above definition of formal education. Non-formal education may therefore take place both within and outside educational institutions and cater to persons of all ages. Depending on country contexts, it may cover educational programmes to impart adult literacy, basic education for out-of-school children, life skills, work skills, and general culture. The AES uses an extensive list of possible non-formal education activities including courses, private lessons and guided on-the-job training to prompt respondents to list all of their learning activities in the previous 12 months. Some of these learning activities might be of short duration.

A person is a participant in *job-related non-formal education*, when at least one of the learning activities was attended for job-related reasons.

The *occupation of the employed* is shown as a four category grouping of the 1-digit level of the International Standard Classification of Occupations (ISCO 88):

- *High-skilled white collar occupations* (codes 1+2+3) include legislators, senior officials and managers, professionals and technicians, and associate professionals.
- *Low-skilled white collar occupations* (4 + 5) include clerks and service workers and shop, and market sales workers.
- *High-skilled blue collar occupations* (6 + 7) include skilled agricultural and fishery workers, and craft and related trades workers.
- *Low-skilled blue collar occupations* (8 + 9) include plant and machine operators and assemblers, and elementary occupations.

The economic activity of the workplace of the employed, called industry, is a four-category grouping of the 2-digit level of the International Standard Industrial Classification (ISIC):

- *Upper-tier services* (first two digits 40-41 or 60-85): the category includes transport and communication, finance, research and development, education, health and social work and other industries.
- *Lower-tier services* (first two digits 50-55, 90-97 or 99): the category includes wholesale and retail trades, hotels and restaurants, recreational, cultural and sporting activities, private households and other industries.
- *Goods-producing industries* (first two digits 15-37 or 45): the category includes manufacture and construction.
- *Resource industries* (first two digits 01-14): the category includes agriculture and mining.

Further references

OECD and Statistics Canada (2000), *Literacy in the Information Age: Final Report of the International Adult Literacy Survey,* OECD Publishing.

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Table A5.1a.

Participation in formal and/or non-formal education, by gender and age (2007)

Participation rate of the 25-64 year-old population

		Males					Females					Total				
		25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64	25-64
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	Australia	48	41	38	c	39	43	39	39	26	37	46	40	39	25	38
	Austria	51	49	44	26	44	43	47	41	24	40	47	48	43	25	42
	Belgium[1]	55	49	40	24	41	58	48	33	23	40	56	49	36	23	41
	Canada[1]	50	47	38	27	41	50	48	46	28	44	50	47	42	28	42
	Czech Republic[1]	50	49	42	26	42	38	41	40	17	34	44	45	41	22	38
	Denmark[2]	58	51	40	28	44	57	49	50	29	45	57	50	45	29	45
	Finland[2]	64	53	49	31	49	68	68	65	45	61	66	61	57	38	55
	France[2]	51	40	35	15	36	46	38	31	17	34	48	39	33	16	35
	Germany	59	54	48	30	48	48	47	45	27	42	53	51	47	28	45
	Greece	22	15	13	5	14	24	15	13	c	15	23	15	13	5	14
	Hungary[2]	15	9	6	3	8	17	12	8	2	10	16	11	7	2	9
	Italy[2]	29	24	23	13	22	32	24	21	11	22	30	24	22	12	22
	Korea	40	27	22	23	29	32	32	31	25	31	36	29	27	24	30
	Netherlands[1]	64	47	46	33	48	55	42	44	24	42	60	45	45	29	45
	New Zealand[2]	72	70	73	59	69	66	67	70	58	66	69	69	72	59	67
	Norway	68	55	49	42	53	62	61	58	41	56	65	58	53	41	55
	Poland[2]	33	25	15	7	21	35	27	18	6	22	34	26	16	7	22
	Portugal	39	29	23	13	27	41	29	21	9	26	40	29	22	11	26
	Slovak Republic	54	49	45	27	45	48	53	46	21	43	51	51	45	24	44
	Spain	39	34	27	17	31	41	33	28	17	31	40	34	27	17	31
	Sweden[3]	80	76	70	58	71	82	82	78	64	76	81	79	74	61	73
	Switzerland	66	64	59	47	60	61	56	58	44	55	64	60	59	45	57
	United Kingdom[2]	61	48	46	33	47	56	55	52	41	51	59	51	49	37	49
	United States[3]	55	46	42	33	45	57	52	54	47	53	56	49	48	40	49
	OECD average	*51*	*44*	*39*	*27*	*41*	*48*	*44*	*41*	*28*	*41*	*50*	*44*	*40*	*27*	*41*
	EU19 average	*48*	*41*	*36*	*23*	*38*	*46*	*42*	*37*	*24*	*37*	*47*	*41*	*37*	*23*	*37*
Partner countries	Estonia	50	42	27	24	37	55	54	46	30	47	53	48	37	27	42
	Slovenia	47	46	36	20	38	58	49	40	24	43	52	48	38	22	41

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.

Source: OECD, LSO network special data collection, Adult Learning Working Group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310168

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Table A5.1b.

Participation in formal and/or non-formal education, by gender and educational attainment (2007)

Participation rate of the 25-64 year-old population

		Males				Females				Males and females			
		Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education	All levels of education	Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education	All levels of education	Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education	All levels of education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	**Australia**	c	38	55	**39**	22	39	52	**37**	23	38	53	**38**
	Austria	20	43	65	**44**	19	41	73	**40**	19	42	68	**42**
	Belgium[1]	21	39	64	**41**	18	37	63	**40**	20	38	63	**41**
	Canada[1]	25	35	54	**44**	17	37	60	**50**	22	36	57	**47**
	Czech Republic[1]	23	40	62	**42**	9	33	63	**34**	15	37	62	**38**
	Denmark[1]	32	40	62	**44**	28	43	63	**45**	30	41	63	**45**
	Finland[2]	33	47	68	**49**	38	58	76	**61**	35	52	73	**55**
	France[2]	21	35	58	**36**	17	33	56	**34**	19	34	57	**35**
	Germany	21	47	64	**48**	19	44	63	**42**	20	45	63	**45**
	Greece	5	15	29	**14**	3	15	34	**15**	4	15	32	**14**
	Hungary[2]	c	8	18	**8**	2	10	21	**10**	3	9	19	**9**
	Italy[2]	9	29	50	**22**	7	31	53	**22**	8	30	51	**22**
	Korea	15	23	36	**29**	18	26	43	**31**	17	25	39	**30**
	Netherlands[1]	34	42	63	**48**	19	42	69	**42**	25	42	65	**45**
	New Zealand[2]	46	68	84	**69**	46	59	83	**66**	46	64	84	**67**
	Norway	41	51	69	**53**	35	53	75	**56**	38	52	72	**55**
	Poland[2]	5	17	51	**21**	4	15	57	**22**	5	16	54	**22**
	Portugal	17	49	64	**27**	14	42	64	**26**	16	46	64	**26**
	Slovak Republic	c	42	59	**45**	c	39	65	**43**	14	41	62	**44**
	Spain	18	35	50	**31**	16	36	53	**31**	17	35	51	**31**
	Sweden[3]	53	71	88	**71**	58	74	92	**76**	56	72	90	**73**
	Switzerland	21	53	78	**60**	20	55	79	**55**	21	54	79	**57**
	United Kingdom[2]	35	47	58	**47**	32	60	67	**51**	33	53	63	**49**
	United States[3]	24	33	58	**45**	23	41	67	**53**	23	37	63	**49**
	OECD average	***25***	***40***	***59***	***41***	***21***	***40***	***62***	***41***	***22***	***40***	***60***	***41***
	EU19 average	***23***	***38***	***57***	***38***	***19***	***38***	***61***	***37***	***20***	***38***	***59***	***37***
Partner countries	**Estonia**	21	34	54	**37**	17	38	64	**47**	20	36	61	**42**
	Slovenia	16	36	62	**38**	10	43	72	**43**	13	39	68	**41**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.

Source: OECD, LSO network special data collection, Adult Learning Working Group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310168

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Table A5.2.

Adults who have not participated in formal/non-formal education and have not looked for information, by gender, age group, educational attainment and labour force status (employed) (2007)

Percentage of the 25-64 year-old population

		Gender		Age group				Educational attainment			Labour force status	
		Males	Females	25-34	35-44	45-54	55-64	Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education	Employed	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	**Australia**	49	48	38	45	49	65	67	48	30	43	**48**
	Austria	46	49	39	41	48	67	72	47	22	41	**48**
	Belgium[1]	51	53	34	44	57	72	74	53	30	44	**52**
	Canada[1]	47	44	33	39	49	64	73	56	33	41	**46**
	Finland[2]	40	26	19	26	34	53	52	35	17	28	**33**
	France[2]	54	56	38	51	58	79	73	56	31	48	**55**
	Germany	46	51	39	43	49	67	74	49	31	43	**49**
	Greece	81	80	69	80	82	93	94	80	58	76	**80**
	Hungary[2]	88	85	76	84	88	96	96	87	71	82	**86**
	Italy[2]	71	71	61	69	72	83	86	62	41	66	**71**
	Korea	50	50	36	46	62	68	79	56	35	51	**50**
	Netherlands[1]	23	27	13	24	26	35	33	26	15	21	**25**
	Poland[2]	71	69	53	65	77	89	91	76	33	61	**70**
	Portugal	68	67	49	65	73	86	79	45	25	62	**67**
	Slovak Republic	40	42	32	34	40	63	77	44	21	32	**41**
	Spain	59	59	48	55	64	77	75	52	36	54	**59**
	Sweden[3]	24	19	13	16	22	36	39	22	8	17	**22**
	United Kingdom[2]	29	28	17	26	29	42	44	23	17	24	**28**
	OECD average	***52***	***51***	***39***	***47***	***54***	***69***	***71***	***51***	***31***	***46***	***52***
	EU19 average	***51***	***47***	***39***	***43***	***49***	***61***	***69***	***48***	***30***	***46***	***47***
Partner country	**Slovenia**	53	48	35	43	56	74	82	53	21	43	**51**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.

Source: OECD, LSO network special data collection, Adult Learning Working Group.

StatLink http://dx.doi.org/10.1787/888932310168

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Table A5.3.

Participation in formal and/or non-formal education, by gender, and according to whether individuals have looked for and found information (2007)

Participation rate of the 25-64 year-old population

		Males					Females					Males and females				
		Looking for information		Finding information			Looking for information		Finding information			Looking for information		Finding information		
		… has not looked	… has looked	… has found	… has not found	Total	… has not looked	… has looked	… has found	… has not found	Total	… has not looked	… has looked	… has found	… has not found	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	**Australia**	31	57	59	36	**39**	27	58	59	41	**37**	29	58	59	39	**38**
	Austria	34	68	71	c	**44**	29	65	70	36	**40**	31	67	71	39	**42**
	Belgium[1]	35	64	65	60	**41**	32	69	69	62	**40**	33	67	68	61	**41**
	Canada[1]	28	67	69	40	**41**	27	69	71	42	**44**	27	68	70	41	**42**
	Finland[2]	41	66	67	47	**49**	50	74	75	66	**61**	45	70	72	58	**55**
	France[2]	29	60	m	m	**36**	26	57	m	m	**34**	28	59	m	m	**35**
	Germany	43	71	77	42	**48**	38	64	72	c	**42**	41	68	75	33	**45**
	Greece	11	47	49	c	**14**	11	48	48	c	**15**	11	47	48	c	**14**
	Hungary[2]	6	39	42	c	**8**	7	39	41	c	**10**	7	39	42	c	**9**
	Italy[2]	19	63	67	42	**22**	17	63	65	47	**22**	18	63	66	45	**22**
	Korea	1	5	c	c	**3**	c	4	c	c	**2**	1	5	5	c	**2**
	Netherlands[1]	27	60	69	36	**48**	22	56	67	30	**42**	25	58	68	33	**45**
	Poland[2]	16	50	52	29	**21**	15	54	56	28	**22**	15	52	54	29	**22**
	Portugal	20	64	66	c	**27**	18	61	62	c	**26**	19	62	64	42	**26**
	Slovak Republic	38	59	60	c	**45**	31	61	62	c	**43**	35	60	61	c	**44**
	Spain	25	53	54	42	**31**	23	57	58	44	**31**	24	55	56	43	**31**
	Sweden[3]	64	85	86	67	**71**	70	88	89	73	**76**	67	86	88	70	**73**
	United Kingdom	m	m	54	34	**47**	m	m	60	31	**51**	m	m	57	32	**49**
	OECD average	***28***	***58***	***63***	***43***	***35***	***28***	***58***	***64***	***46***	***35***	***27***	***58***	***60***	***43***	***35***
	EU19 average	***21***	***51***	***57***	***37***	***27***	***22***	***52***	***58***	***40***	***27***	***21***	***52***	***54***	***40***	***27***
Partner country	**Slovenia**	32	60	61	c	**38**	33	69	71	c	**43**	33	65	66	48	**41**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.

Source: OECD, LSO network special data collection, Adult Learning Working Group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A5.4a.

Participation in formal and/or non-formal education, by workplace aspects (full-time/part-time status, occupation and industry) (2007)

Participation rate of the 25-64 year-old employed population

		Full-time/ part-time status		Occupation				Industry				Total
		Full-time	Part-time	High skilled white collar	Low skilled white collar	High skilled blue collar	Low skilled blue collar	Upper-tier services	Lower-tier services	Goods-producing industries	Resource industries	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	46	38	48	37	28	31	53	37	34	31	**44**
	Austria	48	49	64	53	31	22	65	38	39	36	**48**
	Belgium[1]	51	44	62	51	26	27	60	36	42	20	**49**
	Canada[1]	48	41	60	39	35	27	56	36	34	45	**47**
	Czech Republic[1]	48	42	63	42	34	41	61	35	41	46	**48**
	Denmark[2]	48	65	65	50	41	32	56	44	39	32	**48**
	Finland[2]	63	51	74	65	43	44	71	54	51	52	**62**
	France[2]	44	36	56	39	27	29	49	35	37	23	**42**
	Germany	55	46	69	49	38	34	67	43	43	51	**53**
	Greece	18	20	27	21	7	8	28	14	9	7	**18**
	Hungary[2]	12	10	20	10	6	8	18	8	8	7	**12**
	Korea	29	27	m	m	m	m	m	m	m	m	**29**
	Netherlands[1]	53	53	60	47	39	36	m	m	m	m	**53**
	New Zealand[2]	75	64	87	65	61	49	84	64	60	63	**73**
	Norway	61	59	69	58	46	39	67	55	48	50	**60**
	Poland[2]	31	21	52	26	13	16	47	23	22	13	**30**
	Portugal	32	25	55	35	14	18	48	27	22	10	**32**
	Slovak Republic	56	44	64	45	42	49	64	37	52	41	**54**
	Spain	36	32	53	38	24	22	51	27	28	18	**36**
	Sweden[3]	79	79	91	78	64	58	86	74	71	64	**79**
	Switzerland	64	59	80	54	44	32	74	53	48	53	**63**
	United Kingdom[2]	59	47	64	59	43	41	63	45	49	c	**57**
	United States[3]	55	56	m	m	m	m	m	m	m	m	**55**
	OECD average	*48*	*44*	*61*	*46*	*34*	*32*	*58*	*39*	*39*	*35*	*47*
	EU19 average	*46*	*42*	*59*	*44*	*31*	*30*	*56*	*36*	*37*	*30*	*45*
Partner countries	Estonia	50	44	68	51	30	30	63	50	37	33	**49**
	Slovenia	m	m	66	47	32	26	72	36	36	m	**48**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.

Source: OECD, LSO network special data collection, Adult Learning Working Group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A5.5.

Participation in job-related non-formal education, by gender and labour force status (2007)

Participation rate of the 25-64 year-old population

		Males				Females				Total			
		Employed	Unemployed	Not in the labour force	Total	Employed	Unemployed	Not in the labour force	Total	Employed	Unemployed	Not in the labour force	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	**Australia**	29	18	3	**25**	27	15	4	**20**	28	16	4	**22**
	Austria	41	33	7	**36**	41	28	6	**28**	41	31	6	**32**
	Belgium[1]	39	16	3	**31**	38	17	3	**26**	38	16	3	**29**
	Canada[1]	34	27	3	**31**	37	3	3	**30**	36	16	3	**31**
	Czech Republic[1]	46	6	2	**38**	41	11	3	**28**	44	9	3	**33**
	Denmark[1]	26	c	4	**24**	27	7	4	**22**	27	9	4	**23**
	Finland[2]	48	14	9	**39**	61	22	17	**48**	54	18	14	**44**
	France[2]	39	24	4	**33**	38	25	7	**29**	38	24	6	**31**
	Germany	50	22	14	**42**	46	22	8	**33**	48	22	10	**38**
	Greece	14	5	1	**12**	17	7	c	**10**	15	6	1	**11**
	Hungary[2]	8	3	c	**6**	9	3	c	**6**	8	3	c	**6**
	Italy[2]	19	7	3	**16**	23	8	2	**13**	21	7	2	**14**
	Korea	14	21	10	**15**	11	9	3	**7**	13	17	4	**11**
	Netherlands[1]	46	c	12	**41**	46	c	11	**31**	46	27	12	**36**
	New Zealand[2, 4]	30	13	5	**27**	32	14	6	**25**	31	13	6	**26**
	Norway	53	23	11	**47**	59	c	11	**47**	56	24	11	**47**
	Poland[2]	22	5	1	**16**	27	4	1	**16**	24	4	1	**16**
	Portugal	25	4	1	**20**	26	7	0	**17**	25	5	1	**19**
	Slovak Republic	49	7	4	**41**	48	4	3	**35**	49	5	3	**38**
	Spain	26	11	3	**22**	27	10	2	**17**	26	11	2	**20**
	Sweden[3]	71	30	16	**62**	76	32	15	**60**	73	31	15	**61**
	Switzerland	38	26	7	**35**	39	28	7	**31**	39	27	7	**33**
	United Kingdom[2]	37	19	10	**31**	41	17	7	**30**	39	18	8	**31**
	United States[3]	36	17	10	**32**	50	18	9	**37**	43	18	9	**34**
	OECD average	***35***	***16***	***6***	***30***	***37***	***14***	***6***	***27***	***36***	***16***	***6***	***28***
	EU19 average	***36***	***14***	***6***	***30***	***37***	***14***	***6***	***26***	***36***	***15***	***6***	***28***
Partner countries	**Estonia**	39	10	3	**33**	50	12	7	**40**	44	11	6	**36**
	Slovenia	32	9	4	**26**	37	7	2	**25**	34	8	3	**26**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.
4. Excluding adults who participated only in "short seminars, lectures, workshops or special talks".

Source: OECD, LSO network special data collection, Adult Learning Working Group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A5.6

Mean hours in non-formal education per participant, by gender, educational attainment and labour force status (2007)

Among the 25-64 year-old population

		Gender		Educational attainment			Labour force status			
		Males	Females	Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary education	Employed	Unemployed	Not in the labour force	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Austria	91	93	107	87	97	88	189	81	**92**
	Belgium[1]	114	114	127	147	92	101	274	168	**114**
	Canada[1]	54	43	61	48	48	48	33	110	**49**
	Czech Republic[1]	50	61	30	46	88	54	124	61	**55**
	Denmark[2]	113	129	162	117	109	121	88	136	**121**
	Finland[2]	80	107	98	89	100	81	170	184	**95**
	France[2]	52	63	55	58	58	42	224	101	**57**
	Germany	78	74	100	72	78	66	153	116	**76**
	Greece	77	95	63	83	93	79	168	112	**86**
	Hungary[2]	108	114	120	123	89	101	238	156	**111**
	Italy[2]	47	48	42	49	48	45	76	56	**48**
	Korea	143	123	67	141	136	118	310	130	**132**
	Netherlands[1]	64	53	81	53	58	59	95	55	**59**
	New Zealand[2,4]	46	47	47	41	50	40	65	105	**47**
	Norway	85	71	93	69	81	74	187	114	**78**
	Poland[2]	79	83	68	64	98	78	127	109	**81**
	Portugal	88	98	91	90	97	80	238	197	**93**
	Slovak Republic	51	64	25	45	87	56	112	68	**58**
	Spain	96	127	101	113	117	100	177	165	**112**
	Sweden[3]	72	74	64	62	92	70	93	93	**73**
	United Kingdom[2]	49	43	59	50	36	43	106	60	**46**
	United States[3]	62	58	78	59	58	58	97	58	**59**
	OECD average	***77***	***81***	***79***	***78***	***82***	***73***	***152***	***111***	***79***
	EU19 average	***77***	***85***	***82***	***79***	***85***	***74***	***156***	***113***	***81***
Partner countries	Estonia	48	54	55	43	59	51	72	60	**52**
	Slovenia	49	48	40	49	50	44	85	72	**49**

1. Year of reference 2008.
2. Year of reference 2006.
3. Year of reference 2005.
4. Excluding adults who participated only in "short seminars, lectures, workshops or special talks".

Source: OECD, LSO network special data collection, Adult Learning Working Group.

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HOW DOES EDUCATIONAL ATTAINMENT AFFECT PARTICIPATION IN THE LABOUR MARKET?

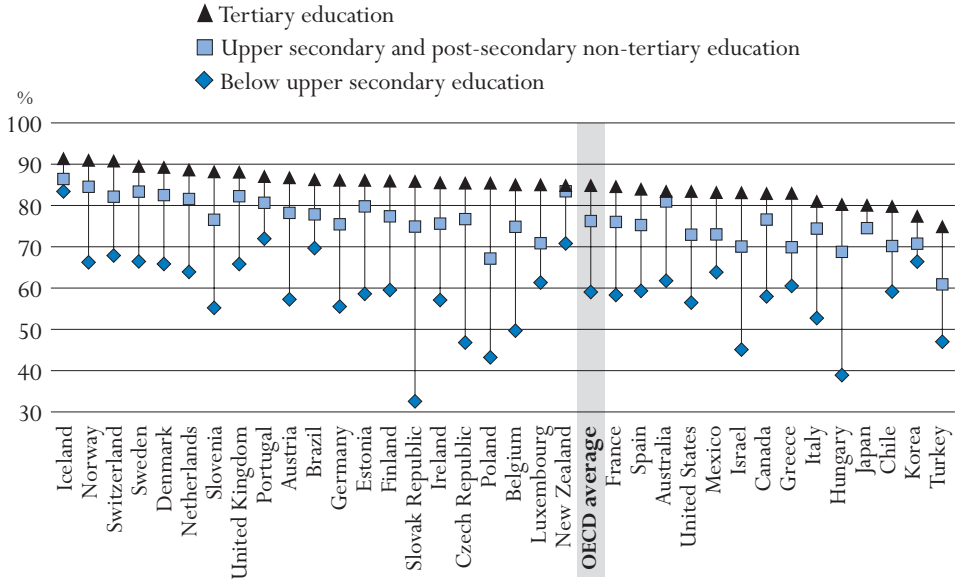
This indicator examines the relation between educational attainment and labour force status. Gender differences are given particular focus. Taken together, information on employment and unemployment provides a complete picture of labour market participation, while trend data on labour force status over time provide a good basis for assessing variation in employment and unemployment risks among groups with different levels of educational attainment.

Key results

Chart A6.1. Positive relation between education and employment (2008)

This chart shows the percentage of 25-64 year-olds in employment, by level of educational attainment.

In all OECD countries, individuals with a tertiary-level degree have a greater chance of being employed than those who lack such a degree. On average, 85% of the population with tertiary education is employed. In Iceland, Norway and Switzerland the share is above 90%. Also in all countries, persons with upper secondary and post-secondary non-tertiary education are much more likely to be employed than those with less education. In Belgium, the Czech Republic, Hungary, Poland, the Slovak Republic and Turkey, and in the partner country Israel, more than half of those with less than upper secondary education are not employed. Overall, employment rates are more than 25 points higher for those with tertiary education than for those who have not completed an upper secondary education. This indicates the magnitude of the economic benefits that flows from additional schooling.



Countries are ranked in descending order of the employment rate of 25-64 year-olds with tertiary education.
Source: OECD. Table A6.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310187

Other highlights of this indicator

- Those with low educational attainment are both less likely to be labour force participants and more likely to be unemployed. On average among OECD countries, males without upper secondary education are more than twice as likely to be unemployed as males with upper secondary education and three times as likely to be unemployed as males with tertiary education.
- Higher education improves job prospects in general and the likelihood of remaining employed in times of economic hardship. On average across OECD countries, unemployment rates of those with tertiary-level attainment have stayed at or below 4%, upper secondary unemployment rates have stayed below 7%, while unemployment rates for those with less than upper secondary education have breached 10% several times since 1997.
- Differences in employment rates between males and females are wider among groups with less education. Chances of being employed are close to 23 percentage points higher for males than for females among those without upper secondary qualification but only 10 points higher for the most highly qualified.

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Policy context

OECD countries' economies and labour markets depend upon a sufficient supply of well-educated workers for their economic development. Indicators related to labour market outcomes by educational attainment show how well the supply of skills matches demand. However, most education programmes have a long time horizon, while shifts in the demand for labour can occur rapidly. These and other factors need to be considered when interpreting the current labour market.

In times of economic downturn, governments can help to cushion hardship and prepare the workforce for the jobs that will become available when economic activity picks up. A key objective for any government is to ensure that cyclical unemployment does not become structural unemployment, or worse, that a large part of the population is forced out of the labour market. When this occurs, it has proven difficult to reintegrate that population.

Higher levels of educational attainment typically lead to higher employment rates. This is principally because a more competitive position in the labour market but also because those with higher levels of education have made a larger investment in their human capital and need to recoup the investment. However, between country variations also reflect cultural differences, varying economic structures, and differences in labour participation rates of females. They also reflect family size and age spread, parenting choices and engagement in other activities, such as study. They may also be influenced by economic circumstances and extent of joblessness.

Unemployment rates are generally lower for more educated individuals, typically because higher educational attainment makes an individual more attractive in the labour market. Unemployment rates therefore indicate both individuals' desire to work and their attractiveness to potential employers.

In a sense, employment rates are more closely tied to supply while unemployment rates are more closely tied to demand. Time series on both measures thus carry important information for policy makers about the supply, and potential supply, of skills available to the labour market and about employers' demand for these skills.

There is a link between these two measures as the supply of labour also depends on the prospects of actually finding a job. High unemployment rates typically discourage new entrants to the labour market, particularly if unemployment rates have been high over a long period of time. Active education and training policies are thus important for reducing unemployment.

Evidence and explanations

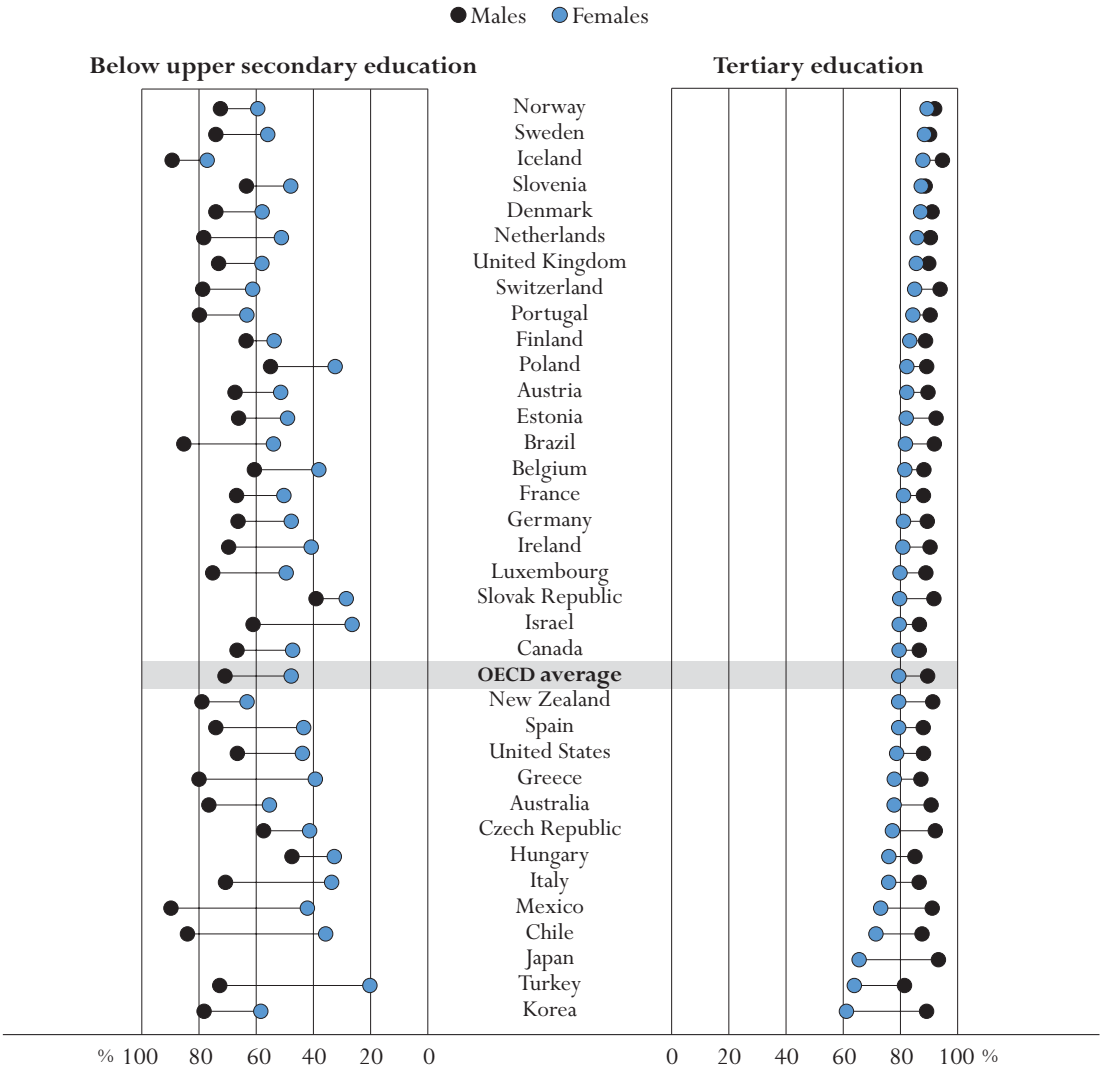
Employment

Education has a substantial impact on the prospect of being employed. Employment rates for males and females across OECD countries increase from an average of 73.9% for males and 50.1% for females with lower secondary qualifications to an average of 89.8% for males and 79.9% for females with tertiary-type A qualifications. Employment rates for females with lower secondary education are particularly low and below 40% in Chile, Hungary, Poland, the Slovak Republic and Turkey. Employment rates for females with tertiary-type A attainment equal or exceed 75% everywhere except Chile, Japan, Korea, Mexico and Turkey, but remain below those of males in all countries (Table A6.1a).

Apart from education, variations in the female employment rate thus contribute to differences in overall employment rates among countries. The countries with the highest overall rate of employment for 25-64 year-olds – Denmark, Iceland, New Zealand, Norway, Sweden and Switzerland – also have among the highest female employment rates (Table A6.1a).

Nevertheless, employment increases substantially with higher levels of education and the gap between male and female employment rates typically narrows considerably with higher educational attainment (Chart A6.2). The gap in the employment rates of males and females with tertiary education is five percentage points or less in Denmark, the Netherlands, Norway, Sweden, the United Kingdom and the partner country Slovenia.

Chart A6.2. Difference between employment rates of females and males, by level of educational attainment (2008)



Countries are ranked in descending order of the employment rate of females with tertiary education.
Source: OECD. Tables A6.3b and A6.3c. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310187

In all countries except Korea and the Slovak Republic, differences in employment between males and females are smaller for those with tertiary education than for those who have not completed upper secondary education. In all but seven countries employment rates of females with tertiary education are higher than those of males who have not completed upper secondary education. On average, more highly educated females have an employment rate that is 8.5 percentage points higher than that of males with less than upper secondary education.

On average among OECD countries, for those with less than upper secondary education female employment rates are 23 percentage points lower than those of males. At the tertiary level this gap is reduced to 10 percentage points (see Tables A6.3b and A6.3c, available on line).

In Italy, the Slovak Republic and the partner country Israel, employment rates for 25-64 year-old females with upper secondary education are at least 30 percentage points higher than for those with less than upper secondary education. Females with tertiary education appear to be particularly advantaged in Turkey, with employment rates 35 percentage points higher than those of females with upper secondary education (see Table A6.3c, available on line).

Similarly, in the group of males aged 25 to 64, there is a particularly wide gap in employment rates between those who are upper secondary graduates and those who are not. The extreme cases are the Czech Republic, Hungary and the Slovak Republic, where employment rates for males who have completed upper secondary education are at least 25 percentage points higher than for males who have not. The gap in employment rates between males with and without an upper secondary education is four percentage points or less in Iceland, Luxembourg, Mexico and Portugal (see Chart A6.2 and Table A6.3b, available on line).

Employment rates for male tertiary graduates are also higher – above 5 percentage points on average for OECD countries – than for male upper secondary graduates. In 2008, the difference between these two groups ranges from a few percentage points to 10 percentage points or more in Hungary, Luxembourg, Poland and the partner country Israel (see Table A6.3b, available on line).

While there have been some large changes over time in employment rates of educational groups within countries, the overall differences between educational groups have narrowed marginally in recent years. Employment rates for the less educated groups have increased, while tertiary rates have remained fairly constant. As employment prospects for less educated individuals are more sensitive to changes in economic conditions and business cycles, these differences are likely to widen again (Table A6.3a).

Unemployment rates fall with higher educational attainment

The employment prospects of individuals with different educational attainment depend largely on the requirements of labour markets and on the supply of workers with different skills. Unemployment rates therefore signal the match between what the education system produces and the skills demanded in the labour market. Those with lower educational qualifications are at particular risk of economic marginalisation since they are both less likely to be labour force participants and more likely to be without a job even if they actively seek one.

Table A6.2a shows unemployment rates for different educational groups, by gender. On average across OECD countries, unemployment rates decrease as educational attainment increases for

both males and females. Unemployment rates for those with a tertiary type-A qualification are less than 4% in most OECD countries (on average 2.9% and 3.6% for males and females, respectively). Unemployment rates for those with lower secondary education jump to 8.5% for males and 10% for females. Females and males with lower secondary education are particularly vulnerable in the Czech Republic, Hungary and the Slovak Republic where their unemployment rates are 15% or more. This is also the case for females in Greece, Spain and Turkey as well as for males in Germany.

Among OECD countries, an upper secondary education is typically considered the minimum for a competitive position in the labour market. On average, the rate of unemployment among those who have completed an upper secondary education is close to four percentage points lower than among those who have not completed this level (Table A6.4a). The unemployment risk associated with the lack of an upper secondary level of education depends upon a country's industry composition and level of economic development.

The risk of unemployment for those without upper secondary education is high in Belgium, the Czech Republic, Germany, Hungary, Poland, Spain and the United States (10% or more), and is particularly high in the Slovak Republic (36.3%). Only in Chile, Greece, Korea, Luxembourg, Mexico and the partner country Brazil is the lack of upper secondary education not associated with a higher risk of unemployment: in these countries the unemployment rate is lower for those with below upper secondary education than for those with upper secondary and post-secondary non-tertiary education.

On average among OECD countries, male labour force participants aged 25 to 64 with less than upper secondary education are twice as likely to be unemployed as those with upper secondary education and three times as likely as those with tertiary education (see Table A6.4b, available on line). The negative association between unemployment and educational attainment is similar, but somewhat less marked, for females (see Table A6.4c, available on line).

Differences in unemployment rates for males and females are smallest among those with tertiary education (Chart A6.3). Among females the unemployment rate is two percentage points higher than for males only in Greece, Italy, Spain, Portugal and Turkey. While overall unemployment rates are considerably below those for females with lower secondary education, females with upper secondary education have generally somewhat higher unemployment rates than males with the same education. In 15 OECD countries, unemployment rates for males with less than upper secondary education are higher than for females with the same educational level.

In OECD countries between 1997 and 2008, unemployment rates for those with upper secondary and post-secondary non-tertiary education decreased on average by 1.8 percentage points (Table A6.4a). For those with upper secondary and post-secondary non-tertiary education, they improved by five percentage points or more in Finland, Spain and Sweden. For those who had not completed upper secondary education, they also decreased by six percentage points or more in Finland, Ireland and Spain. However, for those with less than upper secondary education they rose by more than five percentage points in the Czech Republic, the Slovak Republic and Turkey, leaving the overall improvement in unemployment rates for this group at 1.4 percentage points over the period. For those with tertiary education, the decrease in the unemployment rate was 0.8 of a percentage point.

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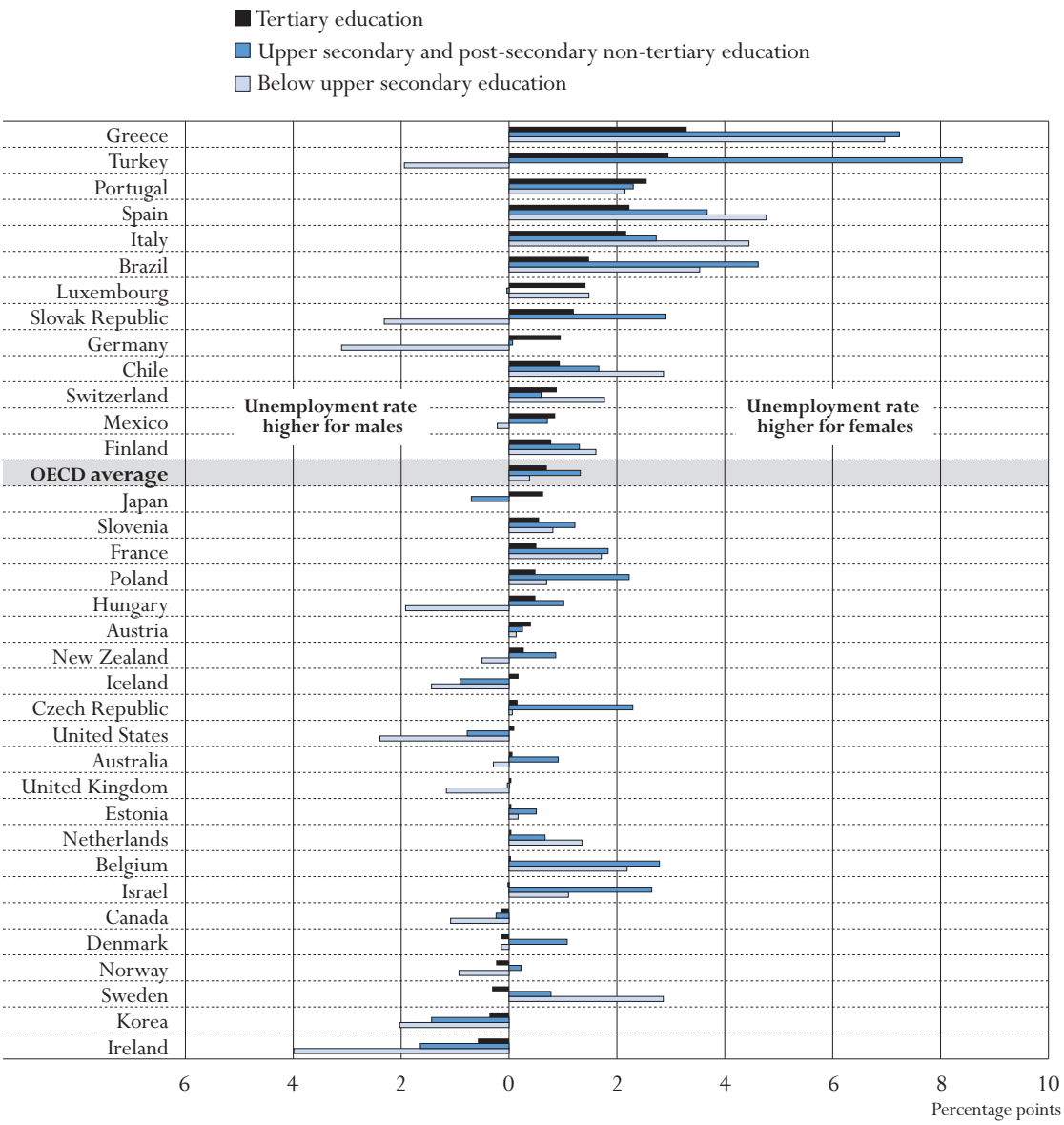
Chart A6.3. Difference between unemployment rates of females and males, by level of educational attainment (2008)



Countries are ranked in descending order of the difference in unemployment rates of females and males who have completed tertiary education.

Source: OECD. Tables A6.4b and A6.4c. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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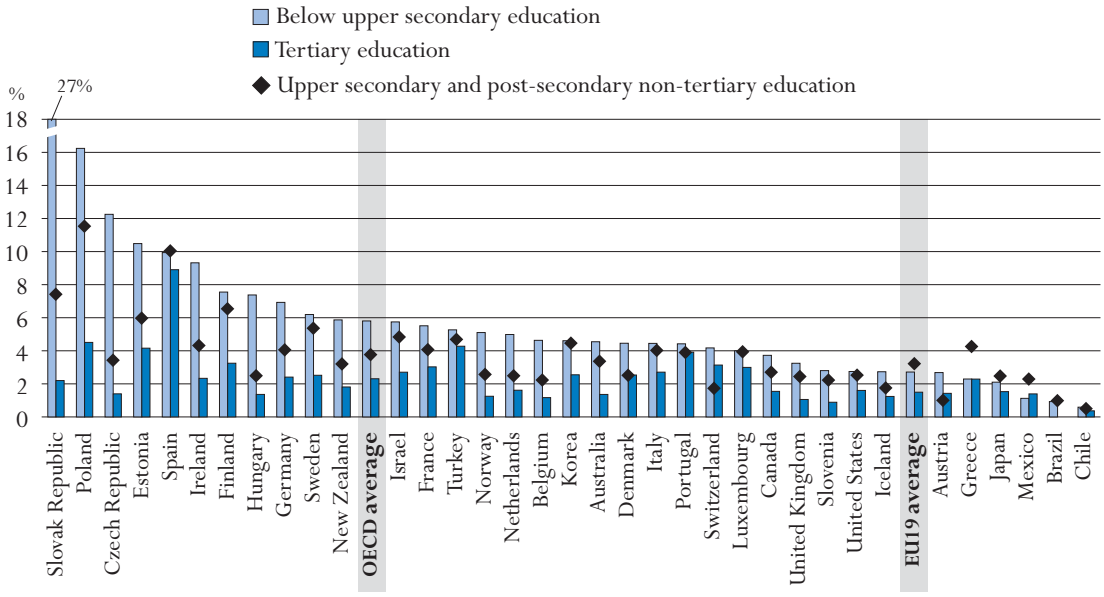
Although differences in unemployment rates among educational groups have narrowed somewhat over the past decade, they also reflect the sensitivity of different educational groups to shifts in overall demand for labour. In all countries except Greece, Japan and Mexico, unemployment rates for those without upper secondary education vary more than for those with tertiary education, and substantially so in many countries (Chart A6.4).

Higher education improves job prospects in general and the likelihood of remaining employed in times of economic hardship. On average across OECD countries, unemployment rates of those with tertiary-level attainment have stayed at or below 4%, upper secondary unemployment rates have stayed below 7%, while unemployment rates for those with less than upper secondary education have breached 10% several times since 1997 (Table A6.4a).

Across the OECD, unemployment rates for individuals with less than upper secondary education reached 10.5% in 2005 and have since fallen to 8.7%. There is considerable variation for this group. In the Czech Republic, Ireland, Poland, the Slovak Republic and Spain, unemployment rates have varied by more than 8 percentage points over the period.

Chart A6.4. Difference between highest and lowest unemployment rates for below upper secondary and tertiary educated 25-64 year-old individuals (1997-2008)



Countries are ranked in descending order of the difference between highest and lowest unemployment rates of 25-64 year-olds with below upper secondary education.

Source: OECD. Table A6.4a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310187

The less educated are thus the most vulnerable group, and it is likely that unemployment rates for those with less than upper secondary education will increase sharply in the coming years. This is already evident in countries that entered the recession early. Unemployment rates for those without upper secondary education have increased substantially more than for those with tertiary education in Ireland, Spain and the United States in the past year.

The weaker labour market participation of those with less education is also evident in the link between unemployment and employment rates. Countries with high unemployment rates typically also have a large portion of the population out of the labour force (Tables A6.3a and A6.4a).

Since the risk of being unemployed in difficult economic times is typically greater for less educated individuals, it is for this group that cyclical unemployment can become a structural problem, with large parts of the working-age population neither in the labour market nor actively seeking employment.

Once individuals are out of the labour force for an extended period, it is, in many instances, difficult for them to re-enter because of skill obsolescence, deteriorating incentives to seek employment, and other barriers to labour market re-entry. Many jobs that are lost will not reappear once the economy returns to growth, particularly in the lower skills segment. With over 40% of those without upper secondary education not employed and unemployment rates close to 10% across the OECD (Tables A6.3a and A6.4a), few countries can afford not to address the issue of further education and training to improve this group's job prospects.

When jobs are scarce, the price for retraining individuals is lower as the opportunity costs are often negligible. Incentives to invest in education and training, and to prepare the workforce for the new jobs that will emerge from the downturn are thus strong in many countries.

Higher unemployment rates in general, and widening unemployment rates between educational groups in particular, also provide individuals with a greater incentive to invest in education. First, because foregone earnings as a consequence of higher unemployment will be lower while they study. As foregone earnings are a major cost component in most countries, labour market conditions have an influence on the decision to invest in education. Second, because better employment prospects for more educated groups will add to the benefit-side of the investment equation. It is thus important for education systems to respond to this opportunity of high demand and low investment costs by increasing access to and resources for educational institutions.

Definition and methodologies

Under the auspices of the International Labour Organization (ILO) and their conferences of labour statisticians, concepts and definitions for measuring labour force participation were established and are now used as a common reference (ILO, 1982).

The employment rate refers to the number of persons in employment as a percentage of the population of working age.

The unemployment rate refers to unemployed persons as a percentage of the civil labour force.

The unemployed are defined as individuals who are, during the survey reference week, without work, actively seeking employment and currently available to start work. The employed are defined as those who, during the survey reference week: *i)* work for pay (employees) or profit (self-employed and unpaid family workers) for at least one hour; or *ii)* have a job but are temporarily not at work (through injury, illness, holiday, strike or lock-out, educational or training leave, maternity or parental leave, etc.).

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310187

- *Table A6.1b. Employment rates and educational attainment (2008)*
- *Table A6.2b. Unemployment rates and educational attainment (2008)*
- *Table A6.3b. Trends in employment rates of 25-64 year-old males, by educational attainment (1997-2008)*
- *Table A6.3c. Trends in employment rates of 25-64 year-old females, by educational attainment (1997-2008)*
- *Table A6.4b. Trends in unemployment rates of males, by educational attainment (1997-2008)*
- *Table A6.4c. Trends in unemployment rates of females, by educational attainment (1997-2008)*

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Table A6.1a.

Employment rates and educational attainment, by gender (2008)

Number of 25-64 year-olds in employment as a percentage of the population aged 25 to 64, by level of education attained and gender

			Pre-primary and primary education	Lower secondary education	ISCED 3C short	Upper secondary education: ISCED 3C long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	Males	65.0	80.7	x(5)	x(5)	88.2	93.4	88.4	91.5	86.0
		Females	28.0	57.2	x(5)	x(5)	68.4	78.3	70.3	79.7	65.9
	Austria	Males	x(2)	66.7	78.4	82.7	79.3	90.0	87.4	91.4	82.6
		Females	x(2)	50.2	62.9	70.2	70.3	81.8	83.0	81.7	68.7
	Belgium	Males	46.9	69.8	a	80.9	81.8	88.5	87.2	88.9	77.4
		Females	27.6	47.2	a	63.6	67.4	76.2	80.6	82.7	63.1
	Canada	Males	53.8	71.6	a	x(5)	81.0	83.0	86.9	86.0	81.7
		Females	32.4	54.0	a	x(5)	69.1	74.2	79.2	79.6	72.4
	Chile	Males	84.8	75.9	x(5)	89.8	88.1	a	90.7	86.5	86.9
		Females	36.5	29.1	x(5)	57.7	50.3	a	67.1	73.6	51.3
	Czech Republic	Males	c	59.6	a	84.2	88.5	x(5)	x(8)	92.2	85.2
		Females	c	41.7	a	61.7	70.5	x(5)	x(8)	77.2	64.9
	Denmark	Males	62.0	75.0	78.0	86.6	83.7	96.6	91.8	91.2	85.1
		Females	44.7	58.9	70.5	80.0	75.2	84.8	85.2	87.8	76.8
	Finland	Males	51.3	75.2	a	a	80.3	96.8	84.7	91.1	79.4
		Females	45.7	61.3	a	a	73.2	96.3	82.4	83.9	74.4
	France	Males	52.3	75.2	a	79.8	82.2	c	90.3	86.7	78.5
		Females	38.6	58.4	a	70.0	72.9	c	82.3	80.2	67.4
	Germany	Males	57.0	69.4	a	81.4	63.5	86.2	88.1	90.1	81.7
		Females	34.6	51.1	a	69.2	54.2	78.6	80.7	81.2	68.4
	Greece	Males	75.5	87.2	83.2	90.0	84.7	87.1	85.0	88.1	83.8
		Females	36.4	45.3	63.2	61.1	51.1	67.2	75.2	78.8	54.4
	Hungary	Males	17.3	50.1	a	72.9	77.9	82.8	87.7	85.0	72.1
		Females	5.4	34.9	a	56.0	64.7	69.2	81.3	75.8	57.8
	Iceland	Males	86.2	89.6	89.4	91.9	84.4	95.1	94.0	94.7	91.7
		Females	c	77.2	82.1	84.4	71.8	84.7	83.5	88.6	81.2
	Ireland	Males	59.0	78.1	c	a	86.0	88.1	89.3	90.8	82.0
		Females	31.8	48.0	c	a	64.0	66.2	77.0	83.1	64.1
	Italy	Males	50.3	77.0	82.5	84.4	83.8	86.4	82.2	86.6	78.0
		Females	16.3	42.4	57.5	60.3	65.2	71.9	68.2	76.1	52.2
	Japan	Males	x(5)	x(5)	x(5)	x(5)	87.6	a	92.9	93.4	90.1
		Females	x(5)	x(5)	x(5)	x(5)	61.7	a	64.8	66.9	63.3
	Korea	Males	74.8	80.7	a	x(5)	84.2	a	89.8	88.9	85.3
		Females	58.4	58.4	a	x(5)	56.8	a	62.0	60.7	58.6
	Luxembourg	Males	69.6	82.5	82.1	79.0	77.9	76.6	87.4	89.3	80.5
		Females	49.3	44.2	56.0	55.5	65.1	75.8	77.2	81.2	62.2
	Mexico	Males	88.4	92.6	a	90.4	92.5	a	91.1	91.1	90.4
		Females	39.3	48.8	a	59.3	55.4	a	72.7	73.1	49.1
	Netherlands	Males	66.1	82.8	x(4)	83.6	90.1	84.3	86.2	90.8	86.1
		Females	38.7	55.5	x(4)	71.2	78.6	78.6	80.6	86.3	71.7
	New Zealand	Males	x(2)	76.3	87.7	88.0	90.1	91.4	90.1	91.8	87.6
		Females	x(2)	59.4	72.8	72.4	76.8	72.8	77.8	80.5	73.3
	Norway	Males	c	73.1	a	87.8	85.1	93.4	93.4	91.8	86.2
		Females	c	60.3	a	80.0	79.8	87.1	94.1	89.1	79.9
	Poland	Males	x(2)	55.0	a	73.8	79.2	80.8	x(8)	89.2	75.7
		Females	x(2)	32.4	a	52.3	59.6	67.7	x(8)	82.2	59.6
	Portugal	Males	77.8	85.7	x(5)	x(5)	83.7	86.6	x(8)	90.4	81.6
		Females	60.2	72.7	x(5)	x(5)	77.9	64.5	x(8)	84.3	68.8
	Slovak Republic	Males	c	42.6	x(4)	78.6	87.9	a	71.2	92.4	81.0
		Females	c	29.7	x(4)	60.3	70.1	a	74.4	80.1	63.4
	Spain	Males	64.3	81.0	a	85.5	82.5	90.6	88.0	88.0	80.2
		Females	33.0	52.3	a	64.7	67.8	c	74.1	81.3	59.2
	Sweden	Males	64.3	78.9	a	x(5)	86.7	87.2	88.0	90.9	85.6
		Females	42.4	64.6	a	x(5)	79.1	80.5	85.8	89.4	79.5
	Switzerland	Males	75.6	79.6	88.0	89.6	80.7	91.3	94.9	93.3	90.0
		Females	54.8	61.7	69.4	76.6	71.1	82.3	89.4	83.3	76.0
	Turkey	Males	71.7	76.8	a	82.6	79.0	a	x(8)	81.4	75.6
		Females	20.5	18.3	a	30.2	27.8	a	x(8)	63.9	26.0
	United Kingdom	Males	c	61.3	82.3	85.8	86.8	c	89.3	90.1	83.5
		Females	c	42.8	69.6	77.5	77.9	c	83.7	86.3	74.0
	United States	Males	68.5	65.5	x(5)	x(5)	78.8	x(5)	83.5	89.3	80.9
		Females	40.0	46.1	x(5)	x(5)	66.8	x(5)	77.5	79.0	69.6
	OECD average	***Males***	***64.5***	***73.9***	***83.5***	***84.1***	***83.4***	***88.4***	***88.1***	***89.8***	***83.0***
		Females	***37.0***	***50.1***	***67.1***	***65.2***	***66.5***	***76.9***	***78.2***	***79.9***	***65.1***
	EU19 average	***Males***	***58.1***	***71.2***	***81.1***	***81.9***	***82.5***	***87.2***	***86.5***	***89.7***	***81.1***
		Females	***36.1***	***49.1***	***63.3***	***64.9***	***68.7***	***75.7***	***79.5***	***82.1***	***65.8***
Partner countries	**Brazil**	Males	84.6	87.4	x(5)	x(5)	89.5	a	x(8)	91.9	87.1
		Females	52.3	58.9	x(5)	x(5)	67.7	a	x(8)	81.7	61.3
	Estonia	Males	34.7	69.1	a	72.8	84.8	89.5	89.7	93.6	84.0
		Females	c	49.9	a	59.7	74.3	80.5	80.1	83.2	75.1
	Israel	Males	55.4	67.5	a	81.3	74.5	a	84.9	87.6	77.5
		Females	19.3	40.8	a	64.6	62.5	a	73.1	83.0	64.5
	Slovenia	Males	39.6	67.7	a	78.8	83.0	a	85.4	91.6	79.5
		Females	28.0	50.2	a	66.6	73.7	a	83.1	91.1	70.7

Source: OECD. See Annex 3 for a description of ISCED-97 levels, ISCED-97 country mappings and national data sources *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310187

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Table A6.2a.

Unemployment rates and educational attainment, by gender (2008)

Number of 25-64 year-olds in unemployment as a percentage of the labour force aged 25 to 64, by level of education attained and gender

			Pre-primary and primary education	Lower secondary education	ISCED 3C short	Upper secondary education		Post-secondary non-tertiary education	Tertiary education		All levels of education
						ISCED 3C long/3B	ISCED 3A		Type B	Type A and advanced research programmes	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	Males	7.0	4.8	x(5)	x(5)	2.5	c	3.0	1.8	3.0
		Females	4.5	5.2	x(5)	x(5)	3.7	c	3.0	1.8	3.2
	Austria	Males	x(2)	6.6	c	2.9	c	2.1	c	2.0	2.9
		Females	x(2)	6.9	c	3.3	c	2.2	c	2.2	3.5
	Belgium	Males	14.6	7.7	a	5.8	4.1	c	3.1	3.3	5.4
		Females	13.7	11.4	a	8.4	7.0	c	2.7	3.7	6.5
	Canada	Males	11.5	9.0	a	x(5)	5.6	5.6	4.5	4.0	5.4
		Females	11.2	7.6	a	x(5)	5.4	5.1	4.0	4.1	4.8
	Chile	Males	4.6	0.8	x(5)	5.8	6.0	a	5.3	5.0	5.3
		Females	7.4	5.1	x(5)	7.8	7.6	a	8.0	4.8	7.0
	Czech Republic	Males	c	17.3	a	2.8	1.7	x(8)	x(8)	1.5	2.9
		Females	c	17.3	a	6.6	3.2	x(8)	x(8)	1.6	5.3
	Denmark	Males	7.7	3.4	7.5	1.6	2.9	c	1.8	2.5	2.3
		Females	8.7	3.4	2.9	2.8	3.0	c	2.1	2.2	2.7
	Finland	Males	8.1	7.0	a	a	4.9	c	2.9	2.8	4.6
		Females	8.0	9.8	a	a	6.3	c	3.6	3.7	5.3
	France	Males	9.8	8.6	a	4.7	5.0	c	2.9	4.3	5.5
		Females	10.8	10.6	a	6.8	6.1	c	3.9	4.5	6.8
	Germany	Males	23.7	16.4	a	7.5	8.4	4.5	2.9	3.0	7.1
		Females	22.7	13.5	a	7.8	6.9	4.0	3.7	4.0	7.4
	Greece	Males	4.2	4.5	c	c	3.5	5.5	5.2	3.7	4.3
		Females	9.4	15.3	c	19.9	9.9	12.9	11.2	6.2	10.1
	Hungary	Males	37.1	17.6	a	7.0	4.3	c	c	2.0	6.7
		Females	57.9	15.3	a	9.0	5.6	7.2	c	2.5	7.2
	Iceland	Males	c	c	c	c	c	c	c	c	2.1
		Females	c	c	c	c	c	c	c	c	c
	Ireland	Males	10.6	8.8	c	a	5.5	5.4	4.2	2.9	5.9
		Females	5.7	5.3	c	a	3.5	4.7	3.1	2.5	3.6
	Italy	Males	8.0	5.5	7.1	2.8	3.5	6.8	3.6	3.1	4.5
		Females	11.6	10.1	12.7	6.6	5.9	8.2	4.2	5.3	7.3
	Japan	Males	x(5)	x(5)	x(5)	x(5)	4.7	a	4.0	2.5	3.8
		Females	x(5)	x(5)	x(5)	x(5)	4.0	a	3.6	3.2	3.8
	Korea	Males	3.3	3.7	a	x(5)	3.9	a	3.3	2.5	3.3
		Females	1.4	1.6	a	x(5)	2.5	a	2.7	2.2	2.2
	Luxembourg	Males	3.9	5.6	c	c	9.1	c	c	c	3.7
		Females	7.1	c	c	6.8	4.3	c	c	3.2	4.5
	Mexico	Males	2.5	2.5	a	2.2	2.7	a	1.5	3.0	2.6
		Females	2.1	2.7	a	2.1	4.5	a	3.0	3.9	2.8
	Netherlands	Males	4.6	2.3	x(4)	2.2	1.6	1.9	2.5	1.5	2.0
		Females	4.9	4.0	x(4)	2.7	2.4	1.8	2.2	1.5	2.5
	New Zealand	Males	x(2)	4.4	2.5	3.1	2.0	1.9	2.8	2.0	2.6
		Females	x(2)	4.1	1.9	3.5	2.3	3.8	2.8	2.3	2.9
	Norway	Males	c	4.1	a	c	c	c	c	1.5	1.8
		Females	c	c	a	c	c	c	c	c	1.6
	Poland	Males	x(2)	11.2	a	6.1	4.3	5.3	x(8)	2.9	5.4
		Females	x(2)	11.9	a	9.0	6.8	6.7	x(8)	3.4	6.7
	Portugal	Males	6.8	6.3	x(5)	x(5)	5.5	c	x(8)	4.3	6.2
		Females	7.9	11.0	x(5)	x(5)	7.6	c	x(8)	6.8	8.2
	Slovak Republic	Males	c	37.1	x(4)	8.2	3.9	a	c	2.5	7.2
		Females	c	34.8	x(4)	13.2	6.5	a	c	3.5	10.2
	Spain	Males	14.0	10.0	a	7.0	8.0	c	5.1	4.5	8.6
		Females	17.2	15.7	a	11.5	11.2	c	9.3	6.2	11.5
	Sweden	Males	7.0	5.7	a	x(5)	3.7	4.3	4.0	3.2	4.0
		Females	13.4	6.9	a	x(5)	4.5	4.9	3.7	2.9	4.4
	Switzerland	Males	c	5.2	c	2.4	c	c	c	1.8	2.3
		Females	c	6.4	c	2.9	4.9	c	c	2.9	3.4
	Turkey	Males	10.2	9.5	a	6.8	8.4	x(8)	x(8)	6.3	9.0
		Females	7.1	17.0	a	16.3	15.8	x(8)	x(8)	9.3	9.8
	United Kingdom	Males	c	8.5	5.7	3.9	3.0	c	2.4	1.9	3.9
		Females	c	8.2	4.3	3.6	3.9	c	2.3	1.9	3.5
	United States	Males	10.2	11.3	x(5)	x(5)	5.6	x(5)	3.7	2.0	4.9
		Females	6.1	9.7	x(5)	x(5)	4.9	x(5)	3.5	2.1	4.0
	OECD average	***Males***	***10.0***	***8.5***	***5.7***	***4.6***	***4.6***	***4.3***	***3.4***	***2.9***	***4.5***
		Females	***11.4***	***10.0***	***5.5***	***7.5***	***5.7***	***5.6***	***4.1***	***3.6***	***5.4***
	EU19 average	***Males***	***11.4***	***10.0***	***6.7***	***4.8***	***4.6***	***4.5***	***3.4***	***2.9***	***4.9***
		Females	***14.2***	***11.7***	***6.6***	***7.9***	***5.8***	***5.8***	***4.3***	***3.6***	***6.2***
Partner countries	**Brazil**	Males	3.0	3.9	x(5)	x(5)	3.9	a	x(8)	2.4	3.4
		Females	6.1	8.6	x(5)	x(5)	8.5	a	x(8)	3.9	6.9
	Estonia	Males	c	9.8	a	c	5.0	c	c	2.3	4.9
		Females	c	9.6	a	c	5.5	c	3.3	2.5	4.6
	Israel	Males	11.1	8.0	a	4.4	4.7	a	4.6	3.3	5.0
		Females	11.0	10.3	a	7.5	7.2	a	4.6	3.3	5.5
	Slovenia	Males	11.3	4.8	a	3.2	2.8	a	3.0	2.6	3.3
		Females	13.7	5.8	a	4.8	3.9	a	3.2	3.5	4.3

Source: OECD. See Annex 3 for a description of ISCED-97 levels, ISCED-97 country mappings and national data sources *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310187

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Table A6.3a.

Trends in employment rates of 25-64 year-olds, by educational attainment (1997-2008)

Number of 25-64 year-olds in employment as a percentage of the population aged 25 to 64, by level of educational attainment

OECD countries

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	Below upper secondary	59.5	59.5	59.1	60.8	59.9	60.0	61.0	60.6	62.9	63.5	63.9	61.5
	Upper secondary and post-secondary non-tertiary	76.1	75.9	76.2	76.7	78.0	77.8	78.7	78.8	79.8	80.4	80.5	80.9
	Tertiary education	83.4	83.8	82.0	82.9	83.1	83.5	83.2	83.3	84.4	84.4	84.8	83.1
Austria	Below upper secondary	52.8	52.6	53.3	53.7	53.5	54.4	55.0	52.2	53.3	55.7	57.9	57.0
	Upper secondary and post-secondary non-tertiary	75.6	75.0	75.6	74.8	74.8	75.3	75.6	73.9	74.3	75.8	76.9	78.1
	Tertiary education	86.0	85.8	86.2	87.5	86.6	86.0	85.0	82.5	84.5	85.9	86.8	86.4
Belgium	Below upper secondary	47.5	47.5	49.1	50.5	49.0	48.8	48.9	48.8	49.0	49.0	49.8	49.4
	Upper secondary and post-secondary non-tertiary	73.4	72.0	74.5	75.1	73.9	73.8	72.8	73.1	74.0	73.2	74.2	74.7
	Tertiary education	83.9	84.3	85.4	85.3	84.5	83.7	83.6	83.9	84.2	83.6	84.9	84.7
Canada	Below upper secondary	52.5	53.5	54.4	55.0	54.4	55.3	56.4	57.1	56.4	56.9	57.3	57.7
	Upper secondary and post-secondary non-tertiary	73.9	74.5	75.4	76.1	75.4	75.9	76.3	76.7	76.3	76.0	76.5	76.5
	Tertiary education	81.7	82.3	82.4	82.7	81.9	82.0	82.0	82.2	82.2	82.6	82.9	82.6
Chile	Below upper secondary	m	m	m	m	m	m	m	m	m	m	59.4	58.9
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	69.3	70.1
	Tertiary education	m	m	m	m	m	m	m	m	m	m	77.9	79.5
Czech Republic	Below upper secondary	51.1	49.5	46.9	46.9	46.7	45.3	46.0	42.3	41.2	43.9	45.7	46.5
	Upper secondary and post-secondary non-tertiary	79.7	78.2	76.4	75.5	75.7	76.2	75.8	74.8	75.5	75.6	76.1	76.6
	Tertiary education	89.3	88.7	87.4	86.8	87.8	87.1	86.5	86.4	85.8	85.1	85.2	85.1
Denmark	Below upper secondary	m	60.9	61.7	62.2	61.5	61.2	62.6	61.7	61.5	62.8	66.6	66.9
	Upper secondary and post-secondary non-tertiary	m	79.1	80.7	81.0	81.0	80.3	79.8	79.9	79.9	81.3	82.5	83.2
	Tertiary education	m	87.5	87.9	88.6	87.2	86.0	85.2	85.5	86.4	87.4	87.8	89.2
Finland	Below upper secondary	54.7	56.2	58.6	57.3	58.2	57.7	57.9	57.1	57.9	58.4	58.6	59.3
	Upper secondary and post-secondary non-tertiary	72.2	73.1	74.3	74.9	75.5	74.4	74.4	74.4	75.2	75.6	76.2	77.3
	Tertiary education	82.6	83.2	84.7	84.4	85.1	85.1	85.0	84.2	84.1	85.0	85.2	85.6
France	Below upper secondary	56.3	56.3	56.4	57.0	57.7	57.8	58.9	59.1	58.6	58.1	57.8	58.1
	Upper secondary and post-secondary non-tertiary	75.0	75.0	75.1	75.8	76.5	76.7	76.3	75.7	75.7	75.6	75.8	75.9
	Tertiary education	81.3	81.6	81.8	83.1	83.7	83.3	83.3	82.9	83.0	83.0	83.5	84.3
Germany	Below upper secondary	45.7	46.1	48.7	50.6	51.8	50.9	50.2	48.6	51.6	53.8	54.6	55.3
	Upper secondary and post-secondary non-tertiary	68.2	67.9	69.9	70.4	70.5	70.3	69.7	69.5	70.6	72.5	74.4	75.3
	Tertiary education	82.3	82.2	83.0	83.4	83.4	83.6	83.0	82.7	82.9	84.3	85.5	85.8
Greece	Below upper secondary	57.4	57.1	57.0	57.5	57.2	58.3	59.7	57.9	59.1	59.5	59.9	60.3
	Upper secondary and post-secondary non-tertiary	63.3	64.8	64.6	64.6	65.0	65.3	66.8	68.1	68.7	69.7	69.4	69.8
	Tertiary education	80.2	80.5	80.7	80.9	80.3	81.2	81.5	81.4	81.8	83.1	82.6	82.6
Hungary	Below upper secondary	36.2	36.2	35.8	35.8	36.6	36.7	37.4	36.9	38.1	38.2	38.5	38.7
	Upper secondary and post-secondary non-tertiary	70.7	70.9	72.1	72.1	71.9	71.7	71.4	70.9	70.4	70.4	70.2	68.7
	Tertiary education	81.4	81.0	82.1	82.4	82.6	82.0	82.7	82.9	83.0	81.8	80.4	79.9
Iceland	Below upper secondary	83.8	85.6	87.2	87.3	87.2	86.4	83.7	81.6	83.0	83.6	84.1	83.1
	Upper secondary and post-secondary non-tertiary	88.0	88.6	90.5	89.0	89.7	89.4	88.7	87.8	88.2	88.6	88.6	86.3
	Tertiary education	94.6	94.7	95.1	95.0	94.7	95.4	92.7	92.0	92.0	92.0	92.2	91.0
Ireland	Below upper secondary	50.3	53.4	54.4	60.7	58.4	56.7	56.6	57.5	58.4	58.7	58.7	56.8
	Upper secondary and post-secondary non-tertiary	68.7	71.7	74.8	77.0	77.3	76.6	75.6	75.9	76.7	77.3	77.1	75.5
	Tertiary education	81.9	85.2	87.2	87.2	87.0	86.3	86.1	86.2	86.8	86.5	86.7	85.2
Italy	Below upper secondary	m	47.8	48.0	48.6	49.4	50.5	50.7	51.7	51.7	52.5	52.8	52.5
	Upper secondary and post-secondary non-tertiary	m	70.1	70.3	71.2	72.1	72.3	72.4	73.5	73.5	74.4	74.5	74.3
	Tertiary education	m	80.8	80.7	81.4	81.6	82.2	82.0	81.2	80.4	80.6	80.2	80.7
Japan	Below upper secondary	69.4	68.8	68.2	67.1	67.6	m	m	m	m	m	m	m
	Upper secondary and post-secondary non-tertiary	75.3	75.8	74.2	73.8	74.3	71.8	71.8	72.0	72.3	73.2	74.4	74.4
	Tertiary education	80.7	79.5	79.2	79.0	79.9	79.2	79.2	79.3	79.4	79.8	80.1	79.7
Korea	Below upper secondary	71.2	66.1	66.9	68.0	67.8	68.4	66.5	66.4	65.9	66.2	66.0	66.1
	Upper secondary and post-secondary non-tertiary	71.7	66.5	66.4	68.7	69.3	70.5	69.6	70.1	70.1	70.3	70.7	70.7
	Tertiary education	80.2	76.1	74.6	75.4	75.7	76.1	76.4	76.7	76.8	77.2	77.2	77.1
Luxembourg	Below upper secondary	m	m	56.5	58.3	60.0	59.3	60.3	59.1	61.8	60.8	62.3	61.1
	Upper secondary and post-secondary non-tertiary	m	m	73.9	74.6	74.8	73.6	73.3	72.6	71.7	73.4	73.9	70.7
	Tertiary education	m	m	85.0	84.3	85.5	85.2	82.3	84.1	84.0	85.2	84.5	84.7
Mexico	Below upper secondary	61.8	61.3	61.4	60.7	60.5	61.3	60.9	62.2	65.4	67.0	63.0	63.6
	Upper secondary and post-secondary non-tertiary	70.1	69.1	69.1	70.7	69.8	69.7	69.5	70.3	59.2	61.1	73.5	72.9
	Tertiary education	83.2	83.2	82.0	82.5	80.9	80.9	81.2	81.4	96.8	97.2	83.0	82.8
Netherlands	Below upper secondary	m	55.3	60.7	57.6	58.8	60.7	59.4	59.4	59.5	60.6	61.9	63.7
	Upper secondary and post-secondary non-tertiary	m	76.8	79.5	79.4	80.0	79.8	78.8	77.9	77.9	79.1	80.3	81.5
	Tertiary education	m	85.4	87.2	86.3	86.3	86.5	85.9	85.3	85.6	86.4	87.7	88.3

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table A6.3a. *(continued)*

Trends in employment rates of 25-64 year-olds, by educational attainment (1997-2008)

Number of 25-64 year-olds in employment as a percentage of the population aged 25 to 64, by level of educational attainment

			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**New Zealand**	Below upper secondary	63.1	62.4	63.6	64.8	65.9	67.0	67.4	68.9	70.0	70.4	71.0	70.5
		Upper secondary and post-secondary non-tertiary	80.3	79.1	79.7	80.0	80.1	81.2	81.4	82.7	84.2	84.2	84.6	83.3
		Tertiary education	82.3	81.5	81.9	82.2	83.7	83.0	82.7	83.3	84.1	84.5	83.7	84.5
	Norway	Below upper secondary	66.7	67.7	67.1	65.3	63.3	64.2	64.1	62.1	64.3	64.7	66.3	66.0
		Upper secondary and post-secondary non-tertiary	83.3	83.9	82.9	82.7	82.7	81.5	79.6	78.8	82.4	83.1	84.0	84.4
		Tertiary education	90.2	90.2	90.2	89.9	89.6	89.5	88.8	89.3	88.8	89.2	90.4	90.6
	Poland	Below upper secondary	50.3	49.1	46.6	42.8	41.5	39.1	38.2	37.5	37.7	38.6	41.0	43.0
		Upper secondary and post-secondary non-tertiary	70.7	71.1	69.7	66.6	64.8	62.5	61.6	61.3	61.7	62.9	65.2	67.0
		Tertiary education	86.7	87.2	86.6	84.5	84.1	83.1	82.6	82.3	82.7	83.5	84.5	85.1
	Portugal	Below upper secondary	m	71.6	71.8	72.8	73.1	73.0	72.4	71.9	71.5	71.7	71.6	71.7
		Upper secondary and post-secondary non-tertiary	m	80.1	81.9	83.3	82.7	82.2	81.5	80.3	79.3	80.2	79.8	80.6
		Tertiary education	m	89.4	90.0	90.6	90.8	88.6	87.5	88.0	87.3	86.4	85.9	86.7
	Slovak Republic	Below upper secondary	38.9	37.4	33.2	30.9	30.5	28.2	28.5	26.6	26.3	28.9	29.1	32.3
		Upper secondary and post-secondary non-tertiary	75.9	75.1	72.5	70.6	70.2	70.5	71.2	70.3	70.8	71.9	73.2	74.8
		Tertiary education	89.8	88.6	87.0	85.6	86.7	86.6	87.1	83.6	84.0	84.9	84.2	85.5
	Spain	Below upper secondary	48.2	49.5	51.0	53.8	55.1	55.7	56.6	57.6	58.6	59.8	60.5	59.1
		Upper secondary and post-secondary non-tertiary	66.6	67.5	69.6	72.1	71.8	71.6	72.4	73.2	74.7	75.9	76.3	75.2
		Tertiary education	75.5	76.3	77.6	79.7	80.7	80.8	81.6	81.9	82.4	83.4	84.4	83.6
	Sweden	Below upper secondary	67.2	66.4	66.5	68.0	68.8	68.2	67.5	67.0	66.1	66.9	66.6	66.2
		Upper secondary and post-secondary non-tertiary	78.6	79.3	79.6	81.7	81.9	81.8	81.3	80.7	81.3	81.9	83.1	83.3
		Tertiary education	85.0	85.5	85.6	86.7	86.9	86.5	85.8	85.4	87.3	87.3	88.6	89.2
	Switzerland	Below upper secondary	68.0	68.8	68.3	64.5	69.6	68.2	66.3	65.4	65.3	64.5	66.0	67.6
		Upper secondary and post-secondary non-tertiary	79.6	80.8	80.9	81.4	81.3	81.1	80.5	79.9	80.0	80.2	81.1	82.0
		Tertiary education	89.1	90.3	90.7	90.4	91.3	90.6	89.7	89.7	90.0	90.2	90.0	90.5
	Turkey	Below upper secondary	56.9	57.4	55.8	53.1	51.9	50.5	49.1	50.1	49.1	49.0	46.9	46.7
		Upper secondary and post-secondary non-tertiary	66.8	66.0	63.9	64.0	62.4	61.8	61.1	61.5	63.2	62.7	61.0	60.8
		Tertiary education	81.7	81.3	79.0	78.5	78.3	76.3	74.9	75.2	76.1	75.5	74.6	74.6
	United Kingdom	Below upper secondary	64.7	64.5	65.0	65.3	65.5	65.3	66.0	65.4	65.5	65.2	64.9	65.6
		Upper secondary and post-secondary non-tertiary	79.2	80.1	80.5	81.1	80.9	81.1	81.5	81.2	81.6	81.3	80.9	82.1
		Tertiary education	87.2	87.1	87.7	87.8	88.1	87.6	87.8	87.7	88.0	88.1	87.8	87.8
	United States	Below upper secondary	55.2	57.6	57.8	57.8	58.4	57.0	57.8	56.5	57.2	58.0	58.3	56.2
		Upper secondary and post-secondary non-tertiary	75.7	75.8	76.2	76.7	76.2	74.0	73.3	72.8	72.8	73.3	73.6	72.8
		Tertiary education	85.4	85.3	84.6	85.0	84.4	83.2	82.2	82.0	82.5	82.7	83.3	83.1
	OECD average	***Below upper secondary***	***57.2***	***57.4***	***57.7***	***57.8***	***58.0***	***57.4***	***57.4***	***56.9***	***57.5***	***58.2***	***58.7***	***58.7***
		Upper secondary and post-secondary non-tertiary	***74.3***	***74.6***	***75.0***	***75.4***	***75.4***	***75.0***	***74.8***	***74.6***	***74.7***	***75.4***	***76.1***	***76.1***
		Tertiary education	***84.2***	***84.4***	***84.5***	***84.7***	***84.7***	***84.4***	***83.9***	***83.7***	***84.6***	***84.9***	***84.4***	***84.5***
	EU19 average	***Below upper secondary***	***51.5***	***53.2***	***53.7***	***54.2***	***54.4***	***54.1***	***54.4***	***53.6***	***54.1***	***54.9***	***55.7***	***56.0***
		Upper secondary and post-secondary non-tertiary	***72.7***	***73.8***	***74.5***	***74.8***	***74.8***	***74.5***	***74.3***	***74.1***	***74.4***	***75.2***	***75.8***	***76.0***
		Tertiary education	***83.8***	***84.5***	***84.9***	***85.1***	***85.2***	***84.8***	***84.4***	***84.1***	***84.4***	***84.8***	***85.1***	***85.3***
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	m	68.8	69.4
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	76.9	77.7
		Tertiary education	m	m	m	m	m	m	m	m	m	m	85.8	86.0
	Estonia	Below upper secondary	m	m	m	m	m	44.1	49.0	50.9	50.0	56.5	56.7	58.3
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	71.9	72.9	72.6	73.6	78.1	79.4	79.7
		Tertiary education	m	m	m	m	m	81.6	80.3	82.4	84.5	87.7	87.4	85.8
	Israel	Below upper secondary	m	m	m	m	m	43.5	42.7	40.4	41.2	41.8	42.7	44.8
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	66.6	65.9	66.4	66.6	67.5	69.2	70.0
		Tertiary education	m	m	m	m	m	79.1	79.3	79.2	80.3	81.2	83.0	82.8
	Slovenia	Below upper secondary	m	m	m	m	m	55.6	54.2	55.9	56.1	55.9	56.2	55.0
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	74.0	72.7	74.4	74.6	74.1	75.1	76.4
		Tertiary education	m	m	m	m	m	86.1	86.1	86.8	87.0	88.2	87.7	87.9

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table A6.4a.

Trends in unemployment rates of 25-64 year-olds, by educational attainment (1997-2008)

Number of 25-64 year-olds unemployed as a percentage of the labour force aged 25 to 64, by level of educational attainment

OECD countries

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	Below upper secondary	9.6	9.0	8.4	7.5	7.6	7.5	7.0	6.2	6.3	5.6	5.1	5.2
	Upper secondary and post-secondary non-tertiary	6.1	5.8	5.1	4.5	4.7	4.3	4.3	3.9	3.4	3.8	3.0	2.6
	Tertiary education	3.5	3.3	3.4	3.6	3.1	3.3	3.0	2.8	2.5	2.3	2.2	2.1
Austria	Below upper secondary	6.6	6.8	5.9	6.2	6.2	6.7	7.8	7.8	8.6	7.9	7.4	6.3
	Upper secondary and post-secondary non-tertiary	3.3	3.7	3.2	2.9	3.0	3.4	3.4	3.8	3.9	3.7	3.3	2.9
	Tertiary education	2.5	1.9	1.8	1.5	1.5	1.8	2.0	2.9	2.6	2.5	2.4	1.7
Belgium	Below upper secondary	12.5	13.1	12.0	9.8	8.5	10.3	10.7	11.7	12.4	12.3	11.3	10.8
	Upper secondary and post-secondary non-tertiary	6.7	7.4	6.6	5.3	5.5	6.0	6.7	6.9	6.9	6.7	6.2	5.7
	Tertiary education	3.3	3.2	3.1	2.7	2.7	3.5	3.5	3.9	3.7	3.7	3.3	3.2
Canada	Below upper secondary	12.9	11.9	10.8	10.2	10.5	11.0	10.9	10.2	9.8	9.3	9.5	9.1
	Upper secondary and post-secondary non-tertiary	8.1	7.5	6.7	5.9	6.3	6.7	6.5	6.2	5.9	5.6	5.4	5.5
	Tertiary education	5.4	4.7	4.5	4.1	4.7	5.1	5.2	4.8	4.6	4.1	3.9	4.1
Chile	Below upper secondary	m	m	m	m	m	m	m	m	m	m	4.6	5.2
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	6.0	6.6
	Tertiary education	m	m	m	m	m	m	m	m	m	m	6.0	5.5
Czech Republic	Below upper secondary	12.1	14.5	18.8	19.3	19.2	18.8	18.3	23.0	24.4	22.3	19.1	17.3
	Upper secondary and post-secondary non-tertiary	3.4	4.6	6.5	6.7	6.2	5.6	6.0	6.4	6.2	5.5	4.3	3.3
	Tertiary education	1.2	1.9	2.6	2.5	2.0	1.8	2.0	2.0	2.0	2.2	1.5	1.5
Denmark	Below upper secondary	m	7.0	7.0	6.9	6.2	6.4	6.7	8.2	6.5	5.5	4.2	3.5
	Upper secondary and post-secondary non-tertiary	m	4.6	4.1	3.9	3.7	3.7	4.4	4.8	4.0	2.7	2.5	2.2
	Tertiary education	m	3.3	3.0	3.0	3.6	3.9	4.7	4.4	3.7	3.2	2.9	2.3
Finland	Below upper secondary	15.6	13.8	13.1	12.1	11.4	12.2	11.2	11.3	10.7	10.1	8.9	8.1
	Upper secondary and post-secondary non-tertiary	11.9	10.6	9.5	8.9	8.5	8.8	8.3	7.9	7.4	7.0	6.1	5.4
	Tertiary education	6.5	5.8	4.7	4.7	4.4	4.5	4.1	4.5	4.4	3.7	3.6	3.3
France	Below upper secondary	15.0	14.9	15.3	13.9	11.9	11.8	10.4	10.7	11.1	11.0	10.2	9.8
	Upper secondary and post-secondary non-tertiary	9.6	9.6	9.2	7.9	6.9	6.8	6.6	6.7	6.6	6.6	6.0	5.6
	Tertiary education	7.0	6.6	6.1	5.1	4.8	5.2	5.3	5.7	5.4	5.1	4.9	4.0
Germany	Below upper secondary	15.4	15.4	15.9	13.9	13.5	15.3	18.0	20.4	20.2	19.9	18.0	16.5
	Upper secondary and post-secondary non-tertiary	9.9	10.3	8.8	8.1	8.2	9.0	10.2	11.2	11.0	9.9	8.3	7.2
	Tertiary education	5.7	5.5	5.0	4.2	4.2	4.5	5.2	5.6	5.5	4.8	3.8	3.3
Greece	Below upper secondary	6.5	7.7	8.8	8.2	8.2	7.8	7.2	8.7	8.3	7.2	7.0	6.8
	Upper secondary and post-secondary non-tertiary	9.6	10.7	11.5	11.2	10.4	10.5	10.1	10.0	9.6	8.9	8.2	7.2
	Tertiary education	7.3	6.8	8.0	7.5	7.2	6.8	6.5	7.4	7.1	6.3	6.1	5.7
Hungary	Below upper secondary	12.6	11.4	11.1	9.9	10.0	10.5	10.6	10.8	12.4	14.8	16.0	17.3
	Upper secondary and post-secondary non-tertiary	6.9	6.2	5.8	5.3	4.6	4.4	4.8	5.0	6.0	6.1	5.9	6.3
	Tertiary education	1.7	1.7	1.4	1.3	1.2	1.5	1.4	1.9	2.3	2.2	2.6	2.3
Iceland	Below upper secondary	4.4	3.2	2.0	2.6	2.6	3.2	3.3	2.5	2.3	c	c	2.5
	Upper secondary and post-secondary non-tertiary	2.7	c	c	c	c	c	c	c	c	c	c	c
	Tertiary education	c	c	c	c	c	c	c	c	c	c	c	c
Ireland	Below upper secondary	14.5	11.6	9.2	5.6	5.2	5.9	6.3	6.1	6.0	5.7	6.1	8.2
	Upper secondary and post-secondary non-tertiary	6.5	4.5	3.5	2.3	2.4	2.8	2.9	3.0	3.1	3.2	3.5	4.8
	Tertiary education	4.0	3.0	1.7	1.6	1.8	2.2	2.6	2.2	2.0	2.2	2.3	3.0
Italy	Below upper secondary	m	10.8	10.6	10.0	9.2	9.0	8.8	8.2	7.8	6.9	6.3	7.4
	Upper secondary and post-secondary non-tertiary	m	8.1	7.9	7.2	6.6	6.4	6.1	5.4	5.2	4.6	4.1	4.6
	Tertiary education	m	6.9	6.9	5.9	5.3	5.3	5.3	5.3	5.7	4.8	4.2	4.3
Japan	Below upper secondary	3.9	4.3	5.6	6.0	5.9	m	m	m	m	m	m	m
	Upper secondary and post-secondary non-tertiary	3.4	3.3	4.4	4.7	4.8	5.6	5.7	5.1	4.9	4.5	4.1	4.4
	Tertiary education	2.3	2.6	3.3	3.5	3.1	3.8	3.7	3.3	3.1	3.0	2.9	3.1
Korea	Below upper secondary	1.4	6.0	5.4	3.7	3.1	2.2	2.2	2.6	2.9	2.6	2.4	2.5
	Upper secondary and post-secondary non-tertiary	2.4	6.8	6.4	4.1	3.6	3.0	3.3	3.5	3.8	3.5	3.3	3.3
	Tertiary education	2.3	4.9	4.7	3.6	3.5	3.2	3.1	2.9	2.9	2.9	2.9	2.6
Luxembourg	Below upper secondary	m	m	3.4	3.1	1.7	3.8	3.3	5.7	5.1	4.9	4.1	4.8
	Upper secondary and post-secondary non-tertiary	m	m	1.1	1.4	1.0	1.2	2.6	3.7	3.2	3.8	2.8	4.9
	Tertiary education	m	m	c	c	c	1.8	4.0	3.2	3.2	2.9	3.0	2.2
Mexico	Below upper secondary	2.6	2.3	1.5	1.5	1.6	1.7	1.8	2.2	2.0	1.9	2.2	2.4
	Upper secondary and post-secondary non-tertiary	4.4	3.3	2.5	2.2	2.3	2.3	2.2	3.0	3.8	3.4	2.8	2.9
	Tertiary education	2.8	3.1	3.5	2.4	2.5	3.0	3.0	3.7	2.6	2.3	3.6	3.3
Netherlands	Below upper secondary	m	0.9	4.3	3.9	2.9	3.0	4.5	5.5	5.8	4.8	4.0	3.4
	Upper secondary and post-secondary non-tertiary	m	1.7	2.3	2.3	1.6	2.0	2.8	3.8	4.1	3.5	2.7	2.1
	Tertiary education	m	m	1.7	1.9	1.2	2.1	2.5	2.8	2.8	2.3	1.8	1.6

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310187

A6

Table A6.4a. *(continued)*

Trends in unemployment rates of 25-64 year-olds, by educational attainment (1997-2008)

Number of 25-64 year-olds unemployed as a percentage of the labour force aged 25 to 64, by level of educational attainment

			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**New Zealand**	Below upper secondary	7.6	8.9	7.8	6.6	5.8	5.0	4.4	3.8	3.5	3.2	3.1	3.7
		Upper secondary and post-secondary non-tertiary	4.4	5.1	5.0	4.0	3.8	3.6	3.5	2.3	2.3	2.2	2.0	2.6
		Tertiary education	3.5	4.0	3.7	3.3	2.8	3.2	3.1	2.7	2.3	2.4	2.2	2.4
	Norway	Below upper secondary	4.0	2.9	2.5	2.2	3.4	3.4	3.9	4.0	7.3	4.7	3.3	3.8
		Upper secondary and post-secondary non-tertiary	3.1	2.4	2.5	2.6	2.7	2.9	3.6	3.8	2.6	2.1	1.3	1.3
		Tertiary education	1.7	1.5	1.4	1.9	1.7	2.1	2.5	2.4	2.1	1.8	1.4	1.3
	Poland	Below upper secondary	13.8	13.9	16.4	20.6	22.6	25.2	25.9	27.8	27.1	21.5	15.5	11.5
		Upper secondary and post-secondary non-tertiary	9.9	9.1	10.7	13.9	15.9	17.8	17.8	17.4	16.6	12.7	8.7	6.3
		Tertiary education	2.1	2.5	3.1	4.3	5.0	6.3	6.6	6.2	6.2	5.0	3.8	3.1
	Portugal	Below upper secondary	m	4.4	4.0	3.6	3.6	4.4	5.7	6.4	7.5	7.6	8.0	7.6
		Upper secondary and post-secondary non-tertiary	m	5.1	4.5	3.5	3.3	4.4	5.3	5.6	6.7	7.1	6.8	6.6
		Tertiary education	m	2.8	3.1	2.7	2.8	3.9	4.9	4.4	5.4	5.4	6.6	5.8
	Slovak Republic	Below upper secondary	22.4	24.3	30.3	36.3	38.7	42.3	44.9	47.7	49.2	44.0	41.3	36.3
		Upper secondary and post-secondary non-tertiary	8.5	8.8	11.9	14.3	14.8	14.2	13.5	14.6	12.7	10.0	8.5	7.4
		Tertiary education	2.8	3.3	4.0	4.6	4.2	3.6	3.7	4.8	4.4	2.6	3.3	3.1
	Spain	Below upper secondary	18.9	17.0	14.7	13.7	10.2	11.2	11.3	11.0	9.3	9.0	9.0	13.2
		Upper secondary and post-secondary non-tertiary	16.8	15.3	12.9	10.9	8.4	9.4	9.5	9.4	7.3	6.9	6.8	9.3
		Tertiary education	13.7	13.1	11.1	9.5	6.9	7.7	7.7	7.3	6.1	5.5	4.8	5.8
	Sweden	Below upper secondary	11.9	10.4	9.0	8.0	5.9	5.8	6.1	6.5	8.5	7.3	7.0	7.1
		Upper secondary and post-secondary non-tertiary	9.4	7.8	6.5	5.3	4.6	4.6	5.2	5.8	6.0	5.1	4.2	4.1
		Tertiary education	5.2	4.4	3.9	3.0	2.6	3.0	3.9	4.3	4.5	4.2	3.4	3.3
	Switzerland	Below upper secondary	6.0	5.7	4.7	4.8	3.4	4.3	5.9	7.1	7.2	7.5	6.7	6.0
		Upper secondary and post-secondary non-tertiary	3.1	2.9	2.5	2.2	2.1	2.4	3.2	3.7	3.7	3.3	3.0	2.9
		Tertiary education	4.4	2.8	1.7	1.4	1.3	2.2	2.9	2.8	2.7	2.2	2.1	1.8
	Turkey	Below upper secondary	4.4	4.4	5.3	4.6	6.7	8.5	8.8	8.1	8.7	8.3	8.6	9.6
		Upper secondary and post-secondary non-tertiary	6.3	6.6	8.2	5.5	7.4	8.7	7.8	10.1	9.2	9.0	9.1	9.3
		Tertiary education	3.9	4.8	5.1	3.9	4.7	7.5	6.9	8.2	6.9	6.9	6.8	7.3
	United Kingdom	Below upper secondary	8.4	7.5	7.1	6.6	6.1	6.0	5.2	5.3	5.1	6.3	6.5	6.2
		Upper secondary and post-secondary non-tertiary	5.5	4.4	4.4	4.0	3.5	3.6	3.5	3.3	3.1	3.8	3.9	3.7
		Tertiary education	3.1	2.6	2.6	2.1	2.0	2.4	2.3	2.2	2.1	2.2	2.3	2.0
	United States	Below upper secondary	10.4	8.5	7.7	7.9	8.1	10.2	9.9	10.5	9.0	8.3	8.5	10.1
		Upper secondary and post-secondary non-tertiary	4.8	4.5	3.7	3.6	3.8	5.7	6.1	5.6	5.1	4.6	4.5	5.3
		Tertiary education	2.3	2.1	2.1	1.8	2.1	3.0	3.4	3.3	2.6	2.5	2.1	2.4
	OECD average	***Below upper secondary***	***10.1***	***9.4***	***9.3***	***9.0***	***8.7***	***9.4***	***9.7***	***10.3***	***10.5***	***10.0***	***9.1***	***8.7***
		Upper secondary and post-secondary non-tertiary	***6.7***	***6.5***	***6.1***	***5.7***	***5.5***	***5.9***	***6.1***	***6.3***	***6.0***	***5.5***	***4.9***	***4.9***
		Tertiary education	***4.1***	***4.0***	***3.8***	***3.5***	***3.3***	***3.7***	***4.0***	***4.1***	***3.8***	***3.5***	***3.4***	***3.2***
	EU19 average	***Below upper secondary***	***13.3***	***11.4***	***11.4***	***11.1***	***10.6***	***11.4***	***11.7***	***12.8***	***13.0***	***12.1***	***11.0***	***10.6***
		Upper secondary and post-secondary non-tertiary	***8.4***	***7.4***	***6.9***	***6.6***	***6.3***	***6.6***	***6.8***	***7.1***	***6.8***	***6.2***	***5.4***	***5.3***
		Tertiary education	***4.7***	***4.4***	***4.1***	***3.8***	***3.5***	***3.8***	***4.1***	***4.3***	***4.2***	***3.7***	***3.5***	***3.2***
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	m	5.6	4.7
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	7.0	6.1
		Tertiary education	m	m	m	m	m	m	m	m	m	m	3.3	3.3
	Estonia	Below upper secondary	m	m	m	m	m	19.0	14.8	15.4	13.0	11.7	8.6	9.7
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	10.5	9.5	9.5	8.4	5.7	4.6	5.2
		Tertiary education	m	m	m	m	m	5.8	6.5	5.0	3.8	3.2	2.4	2.8
	Israel	Below upper secondary	m	m	m	m	m	14.0	15.2	15.6	14.0	12.8	12.4	9.8
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	9.8	10.3	10.6	9.5	8.7	7.2	5.8
		Tertiary education	m	m	m	m	m	6.4	6.4	6.1	5.1	4.5	3.8	3.7
	Slovenia	Below upper secondary	m	m	m	m	m	8.4	8.7	8.4	8.7	7.0	6.5	5.9
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	5.2	5.5	5.3	5.7	5.6	4.3	3.5
		Tertiary education	m	m	m	m	m	2.3	3.0	2.8	3.0	3.0	3.2	3.1

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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INDICATOR A7

WHAT ARE THE ECONOMIC BENEFITS OF EDUCATION?

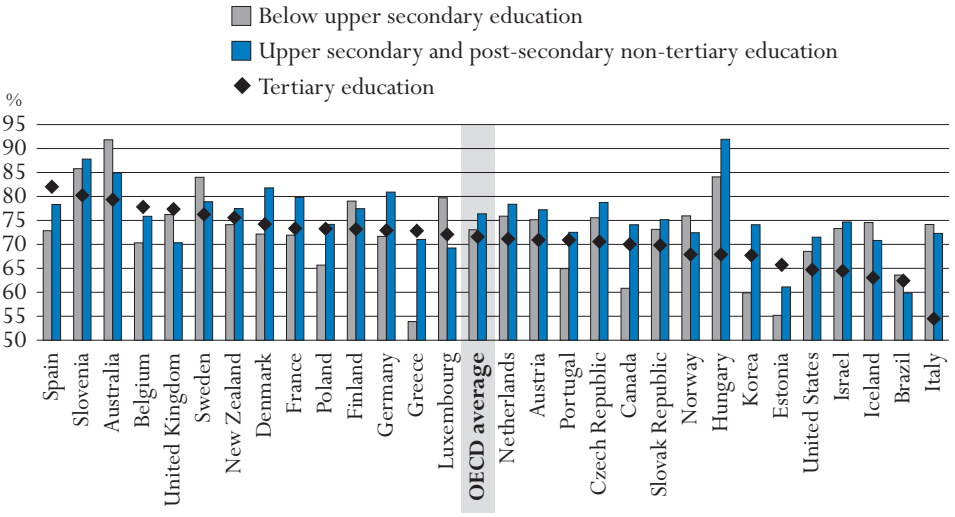
This indicator examines the relative earnings of workers with different educational attainment in 28 OECD countries and the partner countries Brazil, Estonia, Israel and Slovenia. Differences in pre-tax earnings among educational groups give a good indication of supply of and demand for education. Combined with data on earnings over time, these differences give a strong signal about the alignment of education systems with labour market demands.

Key results

Chart A7.1. Differences in full time, full year earnings between females and males (2008 or latest available year)

Average earnings of females as a percentage of those of males (25-64 year-olds), by level of educational attainment

Across all countries and educational levels, females earn considerably less than males. The gender gap in earnings is not reduced with more education. The share of female earnings to male earnings is largest among those with upper secondary and post-secondary non-tertiary education (76%) and smallest among those with tertiary education (72%). Only in seven countries are earnings of tertiary-educated females more than 75% of male earnings, and among these, the gender gap for the tertiary educated is smaller than for females with upper secondary education only in Belgium, Spain and the United Kingdom. Females are often employed in different professional careers than males. Nevertheless, in Iceland, Italy, the United States and the partner countries Brazil and Israel, females who have obtained a tertiary degree earn 65% or less of male earnings, and in all cases except Brazil, the gap in earnings is larger than that of females with less education.



Note: Canada, Finland, Korea, Norway and Spain refer to 2007. Belgium, Denmark, France, Greece, Iceland, Luxembourg, the Netherlands, Poland, Portugal and Sweden refer to 2006. Australia refers to 2005. All other countries refer to 2008.

Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Countries are ranked in descending order of the average full time, full year earnings of females as a percentage of those of males in the 25-64 year-old population with tertiary education.

Source: OECD, LSO Network Economic Working Group special data collection on full time, full year earnings. Table A7.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- Earnings increase with each level of education. Those who have attained upper secondary, post-secondary non-tertiary or tertiary education enjoy substantial earnings advantages compared with individuals of the same gender who have not completed upper secondary education. The earnings premium for tertiary education is substantial in most countries and exceeds 50% in 21 out of 31 countries.

- Males with a degree from a tertiary-type A or advanced research programme have a significant earnings premium in Austria, the Czech Republic, Hungary, Luxembourg, Poland, Portugal, the Slovak Republic, the United States and the partner countries Brazil and Israel. They earn 80% or more than those with upper secondary and post-secondary non-tertiary education. In Hungary, Ireland, Japan, Korea, the Slovak Republic, the United Kingdom and the partner country Brazil, females have a similar advantage.

- However the range of outcomes varies substantially among countries. In Hungary, Portugal and the partner country Brazil, 40% or more of those who have completed a tertiary-type A or an advanced research programme earn twice as much as the median worker. In Denmark and Norway an individual with such a degree is as likely to fall into the lowest earnings category as the highest earnings category.

- The educational earnings advantage increases with age. Tertiary earnings are relatively higher at an older age (compared with the 25-64 year-old population) in all countries except Australia, Italy, Turkey, the United Kingdom and the partner countries Brazil and Israel. For those with below upper secondary education the earnings disadvantage generally increases with age (chart A7.3).

A7

Policy context

One way in which markets provide incentives for individuals to develop and maintain appropriate skills is through earnings, in particular through the higher earnings of persons with higher levels of education. At the same time, education involves costs that must be balanced against these higher earnings. This indicator examines relative earnings, the earnings distribution associated with different levels of education and the variation in these earnings over time.

The earnings premium for different educational levels not only provides incentives to invest in education but also carries information on the supply of and demand for education. High and rising earnings premiums can, in many circumstances, indicate that more highly educated individuals are in short supply, and the reverse is of course true for low and falling premiums. The consequence of too few highly educated individuals in the labour market is rising income inequalities; if sustained, a shortage of supply could eventually price those with higher education out of the global high-end skills market.

Nevertheless, in a longer-term perspective, either price signal will eventually adjust the supply of educated individuals to demand. Relative earnings, and trend data on the earnings premium in particular, are thus important indicators of the match between the education system and the labour market.

The dispersion in earnings among groups at different levels of educational attainment provides additional information about the risk associated with investing in education. Relative earnings offer information on what a typical student can, on average, expect to earn after completing a degree or educational programme. The dispersion in earnings provides a more nuanced picture by giving a range of possible outcomes for different educational attainment levels.

Evidence and explanations

Earnings differentials and educational attainment

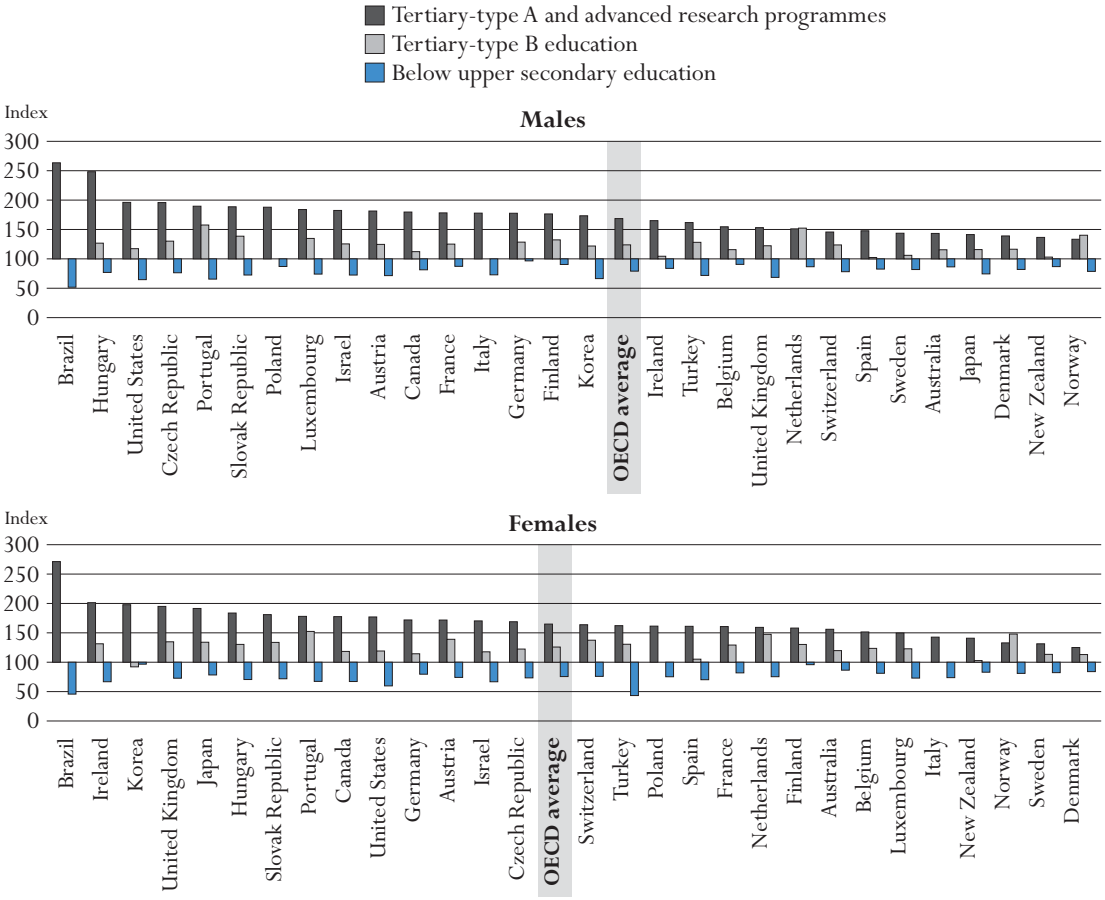
Earnings differentials are key measures of the financial incentives for an individual to invest in further education. They may also reflect differences in the supply of educational programmes at different levels (or barriers to access to those programmes). The earnings benefit of completing tertiary education can be seen by comparing the average annual earnings of those who graduate from tertiary education with the average annual earnings of upper secondary or post-secondary non-tertiary graduates. The earnings disadvantage resulting from not completing upper secondary education is apparent in a similar comparison of average earnings.

Variations among countries in relative earnings (before taxes) reflect a number of factors, including the demand for skills in the labour market, minimum wage legislation, the strength of labour unions, the coverage of collective bargaining agreements, the supply of workers at various levels of educational attainment, and the relative incidence of part-time and seasonal work.

Still, earnings differentials are among the more straightforward indications of whether the supply of educated individuals meets demand, particularly in the light of changes over time. Chart A7.2 shows a strong positive relationship between educational attainment and average earnings. In all countries, graduates of tertiary education earn more overall than upper secondary and post-secondary non-tertiary graduates.

Chart A7.2. Relative earnings from employment (2008 or latest available year)

By level of educational attainment and gender for 25-64 year-olds (upper secondary and post-secondary non-tertiary education = 100) latest available year



Note: Canada, Finland, France, Greece, Japan, Korea, Norway, Spain and the partner country Slovenia refer to 2007. Italy, Luxembourg, the Netherlands, Portugal refer to 2006. Australia, Belgium, Ireland, Turkey refer to 2005. All other countries refer to 2008.

Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Countries are ranked in descending order of the relative earnings of the population with a tertiary-type A (including advanced research) level of educational attainment.

Source: OECD. Table A7.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310206

Earnings differentials between those with tertiary education – especially tertiary-type A and advanced research programmes – and those with upper secondary education are generally more pronounced than the differentials between upper secondary and lower secondary or below. This suggests that in many countries, upper secondary (and, with a small number of exceptions, post-secondary non-tertiary) education forms a dividing line beyond which additional education attracts a particularly high premium. As private investment costs beyond upper secondary education typically rise considerably in most countries, a high premium assures an adequate supply of individuals willing to invest time and money in further education.

Males with a degree from a tertiary-type A or advanced research programme have a substantial earnings premium in Hungary and the partner country Brazil, where the earnings premium exceeds 100% by a substantial margin. In Austria, the Czech Republic, Luxembourg, Poland, Portugal, the Slovak Republic, the United States and the partner country Israel, individuals with a tertiary-type A or advanced research degree earn 80% or more than those with upper secondary and post-secondary non-tertiary education. Females have a similar advantage in Hungary, Ireland, Japan, Korea, the Slovak Republic, the United Kingdom and the partner country Brazil.

Females with below secondary education are particularly disadvantaged in Canada, Ireland, Portugal, Spain, Turkey, the United States and the partner countries Brazil and Israel, with only 70% or less of upper secondary earnings. In Korea, Portugal, the United Kingdom, the United States and the partner country Brazil, males with below upper secondary education are in a similar situation (Table A7.1).

The relative earnings premium for those with tertiary education has been on the rise in most countries over the past ten years, indicating that the demand for more educated individuals still exceeds supply in most countries (Table A7.2a). In Germany, Hungary and Italy, the earnings premium has increased substantially. However, tertiary attainment levels are low in these countries compared to the OECD average (see Indicator A1).

Some countries have seen a decline in the earnings premium over the past ten years. New Zealand, Norway, Spain, Sweden and the United Kingdom have seen a slight decrease in the earnings premiums for those with tertiary education. Whether this is an indication of weakening demand or whether these figures reflect the fact that younger tertiary-educated individuals with relatively low starting salaries have entered the labour market, is difficult to know. Note also that there are differences in these trends between males and females in most countries (Tables A7.2b and A7.2c).

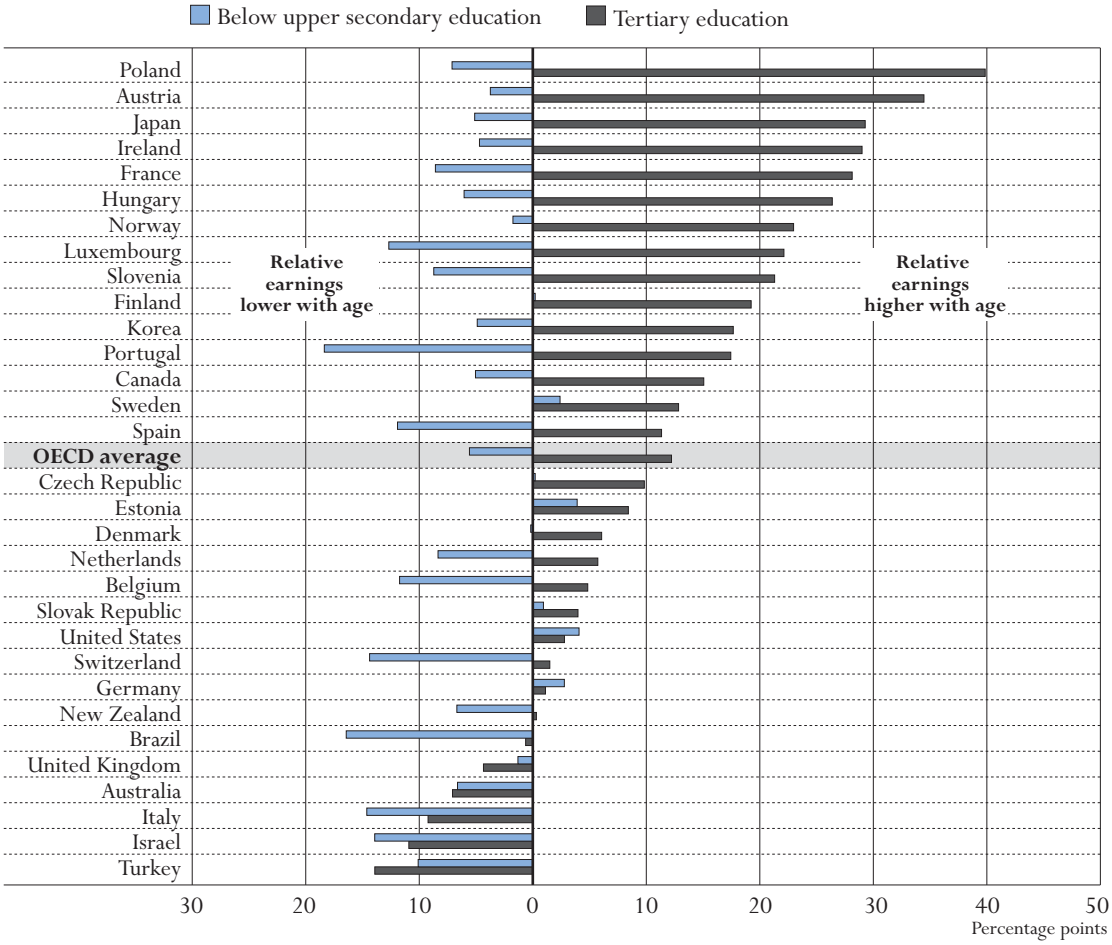
Education and earnings over age

Table A7.1 shows how relative earnings vary with age. The earnings premium for tertiary educated 55-64 year-olds is generally larger than for 25-64 year-olds: on average, the earnings differential increases by 12 percentage points. These benefits of education are shown in Chart A7.3. While employment opportunities at an older age improve for those with tertiary education in most countries (see Indicator A6), the earnings advantages also increase. Earnings are relatively higher for older individuals in all countries except Australia, Italy, Turkey, the United Kingdom and the partner countries Brazil and Israel.

For those with below upper secondary education, the earnings disadvantage increases at an older age (55-64 year-olds) in all countries except Finland, Germany, the Slovak Republic, Sweden, the United States and the partner country Estonia. This increasing earnings disadvantage is less marked than the earnings advantage for those with tertiary education, an indication that tertiary education is a key to higher earnings at an older age. In most countries, then, tertiary education not only increases the prospect of being employed at an older age, but is also associated with improving earnings and productivity differentials throughout the working life.

Chart A7.3. Difference in relative earnings for the 55-64 year-olds and 25-64 year-olds (2008 or latest available year)

Earnings relative to upper secondary and post-secondary non-tertiary education



Note: Canada, Finland, France, Greece, Japan, Korea, Norway, Spain and the partner country Slovenia refer to 2007. Italy, Luxembourg, the Netherlands, Portugal refer to 2006. Australia, Belgium, Ireland, Turkey refer to 2005. All other countries refer to 2008.

Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Countries are ranked in descending order of the difference in relative earnings for the 55-64 year-old population and total population (25-64 year-olds) at the tertiary level of education.

Source: OECD. Table A7.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Education and gender disparities in earnings

For 25-64 year-olds, financial rewards for tertiary education benefit females more than males in Australia, Ireland, Japan, Korea, the Netherlands, Spain, Switzerland, Turkey and the United Kingdom and in the partner countries Brazil and Estonia. The reverse is true in the remaining countries, with the exceptions of Austria, Canada and Norway where – relative to upper secondary education – the earnings of males and females are equally enhanced by tertiary

education (Table A7.1). Both males and females with upper secondary, post-secondary non-tertiary or tertiary attainment have substantial earnings advantages (compared with those of the same gender who do not complete upper secondary education), but earnings differentials between males and females with the same educational attainment remain substantial.

Table A7.3a presents the differences in full-time full-year earnings between males and females. Considering all levels of educational attainment and all age groups, females earn less than their male counterparts except for upper secondary and post-secondary non-tertiary educated females in Hungary. On average, a 35-44 year-old female with upper secondary and post-secondary non-tertiary education can expect to earn 76% of male earnings, compared to 74% for those who have not completed an upper secondary education, and only 71% for those who have completed a tertiary education. Females in the 55-64 age cohort are particularly disadvantaged in Canada, France, Italy, Korea and the partner country Brazil, with earnings less than 60% of those of males.

The gap in earnings between males and females presented in Chart A7.1 and Table A7.3a is due in part to differences in occupations (depending also on what they studied) and in the amount of time spent in the labour force. However, the low earnings, particularly for females who have completed tertiary education, will in many instances be detrimental to the supply of labour and thus the utilisation of the skills produced by the educational systems. As such, large differences in male and female earnings will influence the potential growth of countries.

Distribution of earnings within levels of educational attainment

Data on the distribution of levels of earnings among different educational groups can show how tightly earnings are distributed around the country median. Apart from providing information on equity in earnings, they give information about the risks associated with investing in education. The distribution of earnings complements relative earnings by giving information on how these average earnings are distributed within educational groups.

Tables A7.4a, A7.4b and A7.4c (available on line) show the distribution of earnings among 25-64 year-olds among individuals with a given level of educational attainment. Distributions are provided for the combined male and female populations, as well as for males and females separately. The five earnings categories range from "At or below one-half of the median" to "More than twice the median".

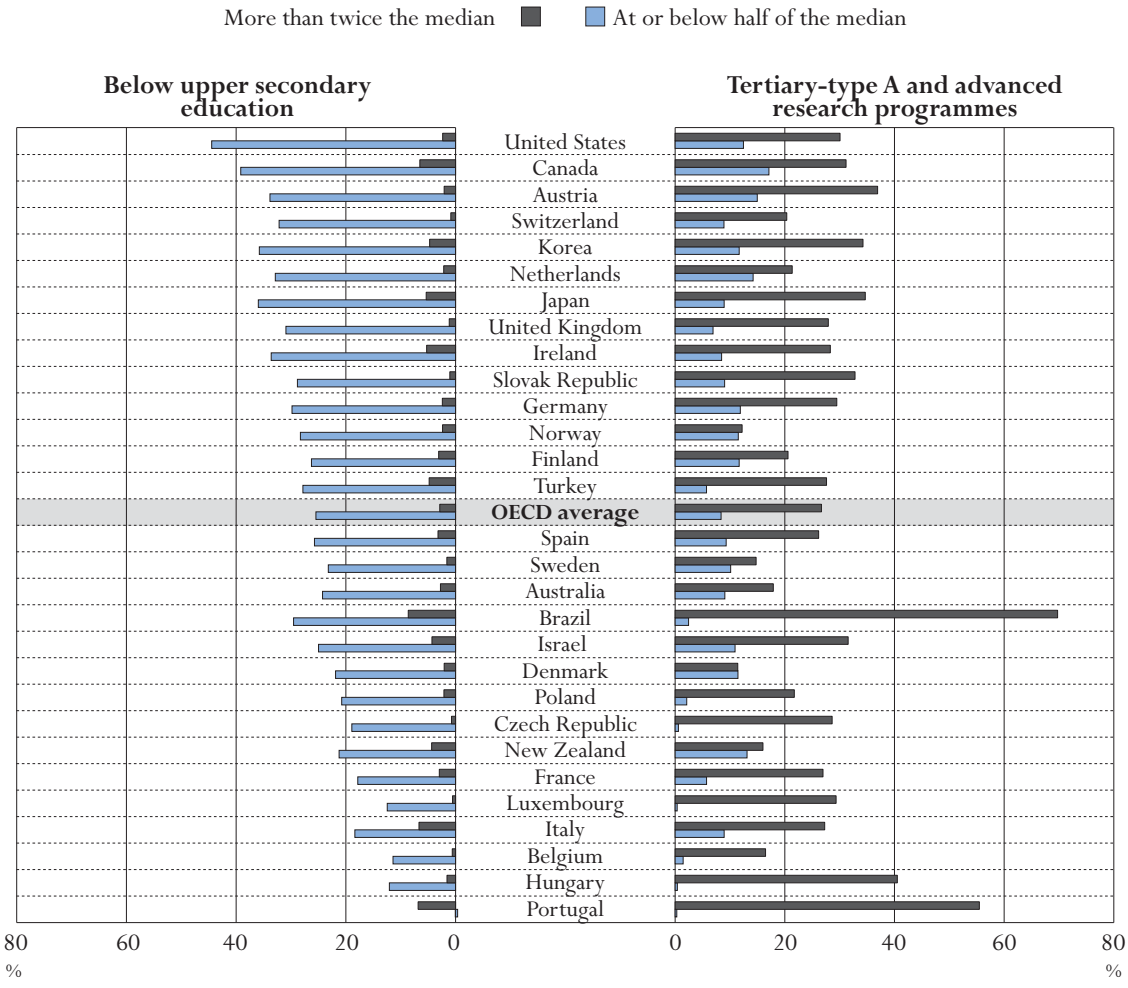
Chart A7.4 contrasts the results for those with below upper secondary education with those who have completed tertiary-type A and advanced research programmes by comparing the proportion of wage earners at or below one-half of the median to those at more than twice the median. As one would expect, there is a large difference between these two educational categories; on average, tertiary-educated individuals have a substantially larger chance to earn twice as much as the median worker and a substantially smaller likelihood to be in the low earnings category than those who have not completed an upper secondary education.

There are, however, some notable differences in how well tertiary-educated individuals fare in different countries. In Hungary, Portugal and the partner country Brazil, 40% or more of those who have completed a tertiary-type A or an advanced research programme earn twice as much as the median worker. In Austria, Canada, 15% or more of those with such a

degree are found in the lowest earnings category (at or below half of the median). Similarly, in Denmark and Norway, an individual with a degree from tertiary-type A or an advanced research programme is as likely to fall into the lowest as the highest earnings category. This signals the risk in the investment as well as the supply of labour, as these earnings estimates include part-time and part-year earnings.

Chart A7.4. Differences in earnings distribution according to educational attainment (2008 or latest available year)

Proportion of the 25-64 year-old population at or below half the median and proportion of the population earning more than twice the median, for below upper secondary education and tertiary-type A and advanced research programmes



Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Countries are ranked in descending order of the difference in proportion of the 25-64 year-old population at or below half the median and the proportion of population earning more than twice the median, at below upper secondary education.

Source: OECD. Table A7.4a available on line. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Part of the reason why more highly educated individuals may fall into a low-income group is related to a low earnings differential and the supply of labour. In Denmark and Norway the earnings premium for someone with a tertiary-type A or an advanced research degree is below 30% (Table A7.1). The relatively low economic reward for higher education is likely to influence the actual supply of labour by those having attained a tertiary education. The interaction between relative earnings and the earnings distribution is complex but important to understand in the context of skills utilisation, particularly for those where large investments have been made.

Non-completion of upper secondary education is associated with large earnings disadvantages in all countries. On average across OECD countries, 3% of those with below upper secondary education are able to earn twice the national median. In Canada, Ireland, Italy, Japan, Portugal, and the partner countries Brazil and Estonia, this figure is above 5% but in no country does it exceed 10%. On average, more than 26% of those who have not completed an upper secondary education earn less than half of the median; this underscores the difficult labour market situation for those with low levels of education.

Definitions and methodologies

The current indicator is based on two different data collections. One is the regular data collection which takes account of earnings from all individuals with earnings from work during the reference period, even if the individual has worked part-time or part-year. The second, a new data collection this year, collects data on the earnings of those working full-time and full-year. This data collection supplies the data for Table A7.3a (gender differences in full-time earnings). The regular data collection is used for all other tables.

Earnings data in Tables A7.1, A7.2 and A7.4 (regular earnings data collection) are based on an annual reference period in Austria, Canada, the Czech Republic, Denmark, Finland, Ireland, Italy, Korea, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Turkey, the United States and the partner countries Brazil and Slovenia. Earnings are reported weekly in Australia, New Zealand and the United Kingdom, and monthly in Belgium, France, Germany, Hungary, Poland, Switzerland and the partner country Israel. Data on earnings are before income tax, except for Belgium, Korea and Turkey for which earnings reported are net of income tax. Data on earnings for individuals in part-time work are also excluded in the regular data collection for the Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia, and data on part-year earnings are excluded for Hungary, Luxembourg, Poland and the partner country Slovenia.

For the definition of full-time earnings, countries were asked whether they had applied a self-designated full-time status or a threshold value of typical number of hours worked per week. Ireland, Italy, Spain, Sweden, the United Kingdom and the partner country Israel reported self-designated full-time status; the other countries defined the full-time status by the number of working hours per week. The threshold was 36 hours per week in Austria, Hungary and the Slovak Republic, 35 in Canada, Germany and the United States and the partner country Brazil, 30 in the Czech Republic, Norway and New Zealand. Other participating countries did not report a minimum normal number of working hours for full-time work. Note also that the data on full-time full-year earnings are for some countries based on the European Survey on Income and Living Conditions (SILC), which uses a self-designated approach in establishing full-time status.

Not all countries were able to verify full-time status over the whole reference period for the earnings data. Austria, Ireland, Hungary and New Zealand reported only full-time status at the time of the survey, while the surveys in the Czech Republic, Germany, Italy, Norway, the Slovak Republic and Spain verified the full-time status over the whole reference period. For the other countries the full-time status was verified for a period similar to the length of the reference period, but the period may differ slightly from the reference period for the earnings. The length of the reference period for earnings also differed. New Zealand and the United Kingdom reported data on weekly earnings, while Germany, Hungary, Ireland, the Netherlands and the partner country Israel reported monthly data. In Austria, the Czech Republic, Italy, Norway, the Slovak Republic, Spain, Sweden, the United States and the partner country Israel, the reference period for the earnings data was 12 months.

The earnings data shown in this indicator differ across countries in a number of ways. The results should therefore be interpreted with caution. In particular, in countries reporting annual earnings, differences in the incidence of seasonal work among individuals with different levels of educational attainment will have an effect on relative earnings that is not reflected to the same extent in the data for countries reporting weekly or monthly earnings. Similarly, it is important to be aware that differences in the prevalence of part-time and part-year earnings in the regular data collection contribute to earnings differentials in countries.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310206

- ***Table A7.4a. Distribution of the 25-64 year-old population, by level of earnings and educational attainment (2008 or latest available year)***
- ***Table A7.4b. Distribution of the 25-64 year-old male population, by level of earnings and educational attainment (2008 or latest available year)***
- ***Table A7.4c. Distribution of the 25-64 year-old female population by level of earnings and educational attainment (2008 or latest available year)***

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Table A7.1.

Relative earnings of the population with income from employment (2008 or latest available year)

By level of educational attainment and gender for 25-64 year-olds, 25-34 year-olds and 55-64 year-olds (upper secondary and post-secondary non-tertiary education = 100)

			Below upper secondary education			Post-secondary non-tertiary education			Tertiary-type B education			Tertiary-type A and advanced research programmes			All tertiary education		
			25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries																	
Australia	2005	Males	86	90	81	105	107	104	115	116	113	143	127	143	136	124	133
		Females	86	82	85	104	99	105	120	115	123	156	149	154	146	142	143
		M + F	81	88	74	96	98	94	110	112	106	139	131	134	131	126	124
Austria	2008	Males	71	66	72	138	117	165	125	115	130	181	141	243	159	134	194
		Females	74	66	63	123	125	150	139	105	156	172	159	206	159	141	186
		M + F	68	66	65	126	115	153	131	106	138	179	146	236	160	133	195
Belgium	2005	Males	91	95	82	98	95	108	116	111	113	155	135	156	137	124	139
		Females	81	85	68	108	105	103	124	122	117	151	144	147	134	131	128
		M + F	89	95	78	100	98	102	115	112	112	155	137	160	133	123	138
Canada	2007	Males	81	90	78	109	113	100	112	118	124	180	157	205	146	137	168
		Females	67	75	64	105	107	110	118	125	111	178	179	162	146	154	133
		M + F	79	89	74	110	111	106	111	116	117	175	157	197	142	137	157
Czech Republic	2008	Males	76	77	78	m	m	m	130	127	125	196	160	202	193	157	200
		Females	73	73	71	m	m	m	122	118	130	169	153	174	164	147	171
		M + F	72	75	72	m	m	m	120	115	124	188	155	196	183	150	193
Denmark	2008	Males	82	79	84	89	46	108	116	121	107	139	112	147	133	114	138
		Females	84	77	85	70	41	141	113	123	108	125	120	132	123	121	128
		M + F	83	80	83	88	45	121	118	123	108	126	110	136	125	112	131
Finland	2007	Males	90	89	92	m	m	m	132	129	132	176	138	210	161	137	177
		Females	96	89	94	m	m	m	130	128	125	158	145	191	146	142	153
		M + F	94	93	94	m	m	m	124	116	126	164	131	207	148	129	167
France	2007	Males	87	91	82	m	m	m	125	122	132	178	150	196	158	138	183
		Females	82	96	73	m	m	m	129	132	132	161	154	185	147	144	166
		M + F	84	94	76	m	m	m	123	122	127	168	147	197	150	136	178
Germany	2008	Males	97	93	96	113	123	110	128	107	114	178	147	160	163	140	148
		Females	80	75	90	110	114	116	114	135	141	172	166	188	158	159	179
		M + F	90	88	93	106	111	106	131	118	135	180	154	178	167	146	168
Greece	2007	Males	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
		Females	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
		M + F	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	2008	Males	77	77	74	127	120	130	127	125	104	248	214	271	248	213	271
		Females	71	75	61	112	111	111	130	120	161	184	175	195	183	175	194
		M + F	73	76	67	118	115	121	127	120	148	211	191	237	210	191	237
Ireland	2005	Males	84	88	76	96	124	76	104	95	140	165	136	204	147	125	187
		Females	67	55	82	93	113	93	131	121	126	201	183	240	178	166	201
		M + F	86	84	81	95	122	80	110	102	124	175	150	210	155	137	184
Italy	2006	Males	73	88	65	m	m	m	m	m	m	178	130	189	178	130	189
		Females	74	81	57	m	m	m	m	m	m	143	130	104	143	130	104
		M + F	76	91	61	m	m	m	m	m	m	155	124	146	155	124	146
Japan	2007	Males	74	88	71	m	m	m	116	111	126	141	126	157	139	125	154
		Females	78	73	77	m	m	m	134	134	146	191	171	225	161	155	178
		M + F	80	90	74	m	m	m	90	96	106	168	139	197	148	129	178
Korea	2007	Males	66	77	68	m	m	m	122	117	116	173	135	186	158	127	177
		Females	97	m	68	m	m	m	92	68	62	198	90	168	167	82	163
		M + F	69	77	64	m	m	m	118	94	118	177	112	186	160	105	177
Luxembourg	2006	Males	74	80	62	m	m	m	135	129	140	184	154	236	158	142	183
		Females	73	71	60	m	m	m	123	124	110	150	146	138	134	133	121
		M + F	74	78	62	m	m	m	132	127	136	177	152	225	153	139	175
Netherlands	2006	Males	87	92	82	100	100	100	152	150	148	151	136	157	151	136	157
		Females	75	76	71	100	100	100	147	157	137	159	151	159	159	151	159
		M + F	85	91	77	100	100	100	153	151	159	154	140	160	154	140	160

Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A7.1. *(continued)*

Relative earnings of the population with income from employment (2008 or latest available year)

By level of educational attainment and gender for 25-64 year-olds, 25-34 year-olds and 55-64 year-olds (upper secondary and post-secondary non-tertiary education = 100)

				Below upper secondary education			Post-secondary non-tertiary education			Tertiary-type B education			Tertiary-type A and advanced research programmes			All tertiary education		
				25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64	25-64	25-34	55-64
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	**New Zealand**	2008	Males	87	86	84	102	108	97	103	87	102	137	120	150	126	112	133
			Females	83	82	78	89	91	86	103	88	106	141	129	140	125	118	121
			M + F	82	84	75	111	113	103	93	82	92	131	118	141	118	109	118
	Norway	2007	Males	79	75	77	116	111	125	140	127	144	133	106	152	134	107	151
			Females	81	78	77	118	114	129	148	144	149	133	126	146	134	127	146
			M + F	79	76	77	123	119	132	150	127	167	127	106	149	128	107	151
	Poland	2008	Males	87	85	82	113	107	121	m	m	m	188	160	227	188	160	227
			Females	75	83	60	119	114	119	m	m	m	161	152	176	161	152	176
			M + F	83	86	76	109	104	118	m	m	m	167	147	207	167	147	207
	Portugal	2006	Males	66	74	49	95	97	92	158	148	161	190	170	201	183	165	192
			Females	67	73	51	105	109	105	152	150	147	178	173	194	173	169	179
			M + F	68	76	50	99	103	95	155	148	157	182	168	206	177	164	194
	Slovak Republic	2008	Males	72	61	79	m	m	m	139	143	134	189	163	190	187	162	188
			Females	72	65	67	m	m	m	134	131	129	181	165	187	176	162	182
			M + F	69	63	70	m	m	m	125	128	124	186	162	189	181	160	185
	Spain	2007	Males	83	89	76	100	95	108	102	101	100	148	125	165	133	116	152
			Females	70	82	55	97	104	87	105	124	90	161	155	147	149	147	140
			M + F	81	93	69	98	93	106	106	112	99	150	135	160	138	127	149
	Sweden	2008	Males	82	79	83	123	82	126	106	97	112	144	119	158	134	114	146
			Females	82	76	85	108	85	126	113	95	120	131	128	147	126	123	137
			M + F	83	79	86	121	81	133	105	95	111	133	117	152	126	113	138
	Switzerland	2008	Males	78	88	65	103	82	128	124	124	125	146	136	142	138	133	136
			Females	76	74	65	122	119	132	137	139	118	164	142	156	156	142	145
			M + F	74	81	60	111	97	134	140	134	143	161	140	162	154	138	156
	Turkey	2005	Males	72	77	60	m	m	m	128	154	121	162	178	133	153	171	129
			Females	43	37	49	m	m	m	131	93	m	162	150	307	154	133	307
			M + F	69	70	59	m	m	m	125	131	128	157	166	138	149	156	135
	United Kingdom	2008	Males	68	70	72	m	m	m	122	108	119	153	143	159	145	136	146
			Females	73	73	70	m	m	m	135	133	127	195	195	179	177	182	159
			M + F	71	72	69	m	m	m	124	114	121	167	158	166	154	149	150
	United States	2008	Males	65	67	70	m	m	m	117	122	111	196	176	196	188	170	188
			Females	60	58	61	m	m	m	119	118	115	177	181	165	171	175	159
			M + F	66	67	70	m	m	m	115	116	112	185	170	188	177	165	180
	OECD average		***Males***	***79***	***82***	***75***	***108***	***102***	***112***	***124***	***120***	***124***	***169***	***144***	***183***	***158***	***139***	***170***
			Females	***76***	***74***	***70***	***105***	***103***	***113***	***126***	***122***	***125***	***165***	***152***	***174***	***154***	***145***	***161***
			M + F	***78***	***82***	***72***	***107***	***102***	***113***	***122***	***117***	***126***	***164***	***143***	***180***	***153***	***137***	***166***
Partner countries	**Brazil**	2008	Males	52	59	36	m	m	m	m	m	m	263	251	266	263	251	266
			Females	46	50	31	m	m	m	m	m	m	271	260	242	271	260	242
			M + F	52	59	36	m	m	m	m	m	m	254	243	253	254	243	253
	Estonia	2008	Males	91	98	97	m	m	m	m	m	m	m	m	m	135	141	144
			Females	82	75	90	m	m	m	m	m	m	m	m	m	146	140	144
			M + F	91	92	95	m	m	m	m	m	m	m	m	m	129	133	137
	Israel	2008	Males	72	78	60	150	150	222	125	114	116	182	145	163	164	136	148
			Females	67	71	57	140	148	83	118	115	122	170	163	154	153	150	142
			M + F	75	83	61	144	151	174	116	107	113	169	141	157	152	131	141
	Slovenia	2007	Males	75	78	69	m	m	m	m	m	m	m	m	m	208	171	225
			Females	72	76	56	m	m	m	m	m	m	m	m	m	187	166	195
			M + F	74	80	65	m	m	m	m	m	m	m	m	m	192	159	213

Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A7.2a.

Trends in relative earnings: Total population (1998-2008)

By educational attainment, for 25-64 year-olds (upper secondary and post-secondary non-tertiary education = 100)

			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**Australia**	Below upper secondary	m	80	m	77	m	m	m	81	m	m	m
		Tertiary	m	134	m	133	m	m	m	131	m	m	m
	Austria	Below upper secondary	m	m	m	m	m	m	m	71	66	67	68
		Tertiary	m	m	m	m	m	m	m	152	157	155	160
	Belgium	Below upper secondary	m	m	92	m	91	89	90	89	m	m	m
		Tertiary	m	m	128	m	132	130	134	133	m	m	m
	Canada	Below upper secondary	77	80	79	76	77	78	78	77	75	79	m
		Tertiary	143	144	145	146	139	140	139	138	140	142	m
	Czech Republic	Below upper secondary	68	68	m	m	m	m	73	72	74	73	72
		Tertiary	179	179	m	m	m	m	182	181	183	183	183
	Denmark	Below upper secondary	86	86	m	87	88	82	82	82	83	82	83
		Tertiary	124	124	m	124	124	127	126	125	126	125	125
	Finland	Below upper secondary	96	96	95	95	95	94	94	94	94	94	m
		Tertiary	148	153	153	150	150	148	149	149	149	148	m
	France	Below upper secondary	84	84	m	m	84	84	85	86	85	84	m
		Tertiary	150	150	m	m	150	146	147	144	149	150	m
	Germany	Below upper secondary	78	79	75	m	77	87	88	88	90	91	90
		Tertiary	130	135	143	m	143	153	153	156	164	162	167
	Greece	Below upper secondary	m	m	m	m	m	m	m	m	m	m	m
		Tertiary	m	m	m	m	m	m	m	m	m	m	m
	Hungary	Below upper secondary	68	70	71	71	74	74	73	73	73	72	73
		Tertiary	184	200	194	194	205	219	217	215	219	211	210
	Ireland	Below upper secondary	79	m	89	m	76	m	85	86	m	m	m
		Tertiary	142	m	153	m	144	m	169	155	m	m	m
	Italy	Below upper secondary	58	m	78	m	78	m	79	m	76	m	m
		Tertiary	127	m	138	m	153	m	165	m	155	m	m
	Japan	Below upper secondary	m	m	m	m	m	m	m	m	m	80	m
		Tertiary	m	m	m	m	m	m	m	m	m	148	m
	Korea	Below upper secondary	78	m	m	m	m	67	m	m	m	69	m
		Tertiary	135	m	m	m	m	141	m	m	m	160	m
	Luxembourg	Below upper secondary	m	m	m	m	78	m	m	m	74	m	m
		Tertiary	m	m	m	m	145	m	m	m	153	m	m
	Netherlands	Below upper secondary	m	m	m	m	84	m	m	m	85	m	m
		Tertiary	m	m	m	m	148	m	m	m	154	m	m
	New Zealand	Below upper secondary	79	81	79	78	81	77	75	77	82	76	82
		Tertiary	119	120	123	120	123	123	116	120	115	117	118
	Norway	Below upper secondary	84	84	m	79	79	78	78	78	78	79	m
		Tertiary	132	133	m	131	130	131	130	129	129	128	m
	Poland	Below upper secondary	84	82	m	81	81	m	82	m	84	m	83
		Tertiary	156	161	m	166	172	m	179	m	173	m	167
	Portugal	Below upper secondary	62	62	m	m	m	m	67	67	68	m	m
		Tertiary	177	178	m	m	m	m	178	177	177	m	m
	Slovak Republic	Below upper secondary	m	m	m	m	m	m	m	m	m	m	69
		Tertiary	m	m	m	m	m	m	m	m	m	m	181
	Spain	Below upper secondary	80	m	m	78	m	m	85	m	m	81	m
		Tertiary	144	m	m	129	m	m	132	m	m	138	m
	Sweden	Below upper secondary	89	89	m	86	87	87	87	86	85	84	83
		Tertiary	130	131	m	131	130	128	127	126	126	126	126
	Switzerland	Below upper secondary	73	75	75	76	75	74	74	75	74	75	74
		Tertiary	155	153	152	155	154	156	156	155	156	159	154
	Turkey	Below upper secondary	m	m	m	m	m	m	65	69	m	m	m
		Tertiary	m	m	m	m	m	m	141	149	m	m	m
	United Kingdom	Below upper secondary	66	69	69	70	68	69	69	71	71	70	71
		Tertiary	157	162	160	160	157	162	157	158	160	157	154
	United States	Below upper secondary	67	65	65	m	66	66	65	67	66	65	66
		Tertiary	173	166	172	m	172	172	172	175	176	172	177
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	51	52
		Tertiary	m	m	m	m	m	m	m	m	m	268	254
	Estonia	Below upper secondary	m	m	m	m	m	m	m	m	m	m	91
		Tertiary	m	m	m	m	m	m	m	m	m	m	129
	Israel	Below upper secondary	m	m	m	m	m	m	m	79	78	83	75
		Tertiary	m	m	m	m	m	m	m	151	151	153	152
	Slovenia	Below upper secondary	m	m	m	m	m	m	73	m	74	74	m
		Tertiary	m	m	m	m	m	m	198	m	193	192	m

Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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A7

Table A7.2b.

Trends in relative earnings: Male population (1998-2008)

By educational attainment, for 25-64 year-olds (upper secondary and post-secondary non-tertiary education = 100)

			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**Australia**	Below upper secondary	m	86	m	84	m	m	m	86	m	m	m
		Tertiary	m	139	m	142	m	m	m	136	m	m	m
	Austria	Below upper secondary	m	m	m	m	m	m	m	76	72	72	71
		Tertiary	m	m	m	m	m	m	m	149	155	151	159
	Belgium	Below upper secondary	m	m	93	m	91	90	91	91	m	m	m
		Tertiary	m	m	128	m	132	132	137	137	m	m	m
	Canada	Below upper secondary	77	80	80	76	79	79	78	78	76	81	m
		Tertiary	143	144	151	150	143	143	140	140	142	146	m
	Czech Republic	Below upper secondary	75	75	m	m	m	m	79	79	81	78	76
		Tertiary	178	178	m	m	m	m	193	190	194	192	193
	Denmark	Below upper secondary	87	87	m	87	87	82	82	82	82	81	82
		Tertiary	132	133	m	132	131	134	133	133	133	133	133
	Finland	Below upper secondary	93	93	92	92	92	92	91	91	91	90	m
		Tertiary	159	167	169	163	163	160	161	162	162	161	m
	France	Below upper secondary	88	88	m	m	88	88	89	90	89	87	m
		Tertiary	159	159	m	m	159	151	154	152	157	158	m
	Germany	Below upper secondary	77	80	80	m	84	90	91	93	92	90	97
		Tertiary	126	138	141	m	140	150	149	151	163	158	163
	Greece	Below upper secondary	m	m	m	m	m	m	m	m	m	99	m
		Tertiary	m	m	m	m	m	m	m	m	m	384	m
	Hungary	Below upper secondary	72	73	75	75	78	77	76	76	75	74	77
		Tertiary	218	238	232	232	245	255	253	253	259	247	248
	Ireland	Below upper secondary	78	m	84	m	71	m	85	84	m	m	m
		Tertiary	131	m	138	m	141	m	171	147	m	m	m
	Italy	Below upper secondary	54	m	71	m	74	m	78	m	73	m	m
		Tertiary	138	m	143	m	162	m	188	m	178	m	m
	Japan	Below upper secondary	m	m	m	m	m	m	m	m	m	74	m
		Tertiary	m	m	m	m	m	m	m	m	m	139	m
	Korea	Below upper secondary	88	m	m	m	m	73	m	m	m	66	m
		Tertiary	132	m	m	m	m	127	m	m	m	158	m
	Luxembourg	Below upper secondary	m	m	m	m	79	m	m	m	74	m	m
		Tertiary	m	m	m	m	149	m	m	m	158	m	m
	Netherlands	Below upper secondary	m	m	m	m	84	m	m	m	87	m	m
		Tertiary	m	m	m	m	143	m	m	m	151	m	m
	New Zealand	Below upper secondary	83	87	82	81	84	80	77	83	85	78	87
		Tertiary	128	131	133	124	131	135	126	129	123	128	126
	Norway	Below upper secondary	85	85	m	80	80	79	79	78	79	79	m
		Tertiary	133	135	m	134	133	134	134	134	134	134	m
	Poland	Below upper secondary	86	85	m	85	84	m	86	m	86	m	87
		Tertiary	175	182	m	185	194	m	204	m	194	m	188
	Portugal	Below upper secondary	61	60	m	m	m	m	64	64	66	m	m
		Tertiary	178	180	m	m	m	m	183	183	183	m	m
	Slovak Republic	Below upper secondary	m	m	m	m	m	m	m	m	m	m	72
		Tertiary	m	m	m	m	m	m	m	m	m	m	187
	Spain	Below upper secondary	82	m	m	79	m	m	84	m	m	83	m
		Tertiary	152	m	m	138	m	m	132	m	m	133	m
	Sweden	Below upper secondary	87	87	m	84	85	85	85	84	83	83	82
		Tertiary	136	138	m	141	139	137	135	135	135	135	134
	Switzerland	Below upper secondary	80	80	79	84	79	78	78	80	78	77	78
		Tertiary	136	134	135	140	137	140	139	140	138	144	138
	Turkey	Below upper secondary	m	m	m	m	m	m	67	72	m	m	m
		Tertiary	m	m	m	m	m	m	139	153	m	m	m
	United Kingdom	Below upper secondary	75	76	74	73	72	71	70	72	73	69	68
		Tertiary	149	155	152	147	147	152	146	146	148	145	145
	United States	Below upper secondary	65	63	64	m	63	63	62	64	63	63	65
		Tertiary	176	167	178	m	178	177	179	183	183	180	188
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	51	52
		Tertiary	m	m	m	m	m	m	m	m	m	284	263
	Estonia	Below upper secondary	m	m	m	m	m	m	m	m	m	m	91
		Tertiary	m	m	m	m	m	m	m	m	m	m	135
	Israel	Below upper secondary	m	m	m	m	m	m	m	74	76	80	72
		Tertiary	m	m	m	m	m	m	m	159	166	165	164
	Slovenia	Below upper secondary	m	m	m	m	m	m	74	m	75	75	m
		Tertiary	m	m	m	m	m	m	217	m	210	208	m

Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table A7.2c.

Trends in relative earnings: Female population (1998-2008)

By educational attainment, for 25-64 year-olds (upper secondary and post-secondary non-tertiary education = 100)

			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**Australia**	Below upper secondary	m	89	m	84	m	m	m	86	m	m	m
		Tertiary	m	146	m	146	m	m	m	146	m	m	m
	Austria	Below upper secondary	m	m	m	m	m	m	m	74	71	73	74
		Tertiary	m	m	m	m	m	m	m	156	158	160	159
	Belgium	Below upper secondary	m	m	82	m	83	81	82	81	m	m	m
		Tertiary	m	m	132	m	139	132	137	134	m	m	m
	Canada	Below upper secondary	68	68	69	66	65	68	69	68	66	67	m
		Tertiary	147	145	145	149	141	144	147	144	146	146	m
	Czech Republic	Below upper secondary	72	72	m	m	m	m	73	72	73	74	73
		Tertiary	170	170	m	m	m	m	160	161	163	165	164
	Denmark	Below upper secondary	89	90	m	90	90	85	85	84	84	83	84
		Tertiary	124	123	m	124	123	127	126	126	125	124	123
	Finland	Below upper secondary	99	99	99	98	98	97	97	98	97	96	m
		Tertiary	143	145	146	146	146	146	146	145	146	146	m
	France	Below upper secondary	79	79	m	m	81	81	82	81	82	82	m
		Tertiary	145	145	m	m	146	146	145	142	146	147	m
	Germany	Below upper secondary	85	83	72	m	73	81	81	77	83	84	80
		Tertiary	128	123	137	m	137	145	148	151	153	159	158
	Greece	Below upper secondary	m	m	m	m	m	m	m	m	m	m	m
		Tertiary	m	m	m	m	m	m	m	m	m	m	m
	Hungary	Below upper secondary	67	68	71	71	71	72	71	72	72	71	71
		Tertiary	159	167	164	164	176	192	190	188	189	185	183
	Ireland	Below upper secondary	59	m	65	m	60	m	68	67	m	m	m
		Tertiary	145	m	163	m	153	m	168	178	m	m	m
	Italy	Below upper secondary	61	m	84	m	78	m	73	m	74	m	m
		Tertiary	115	m	137	m	147	m	138	m	143	m	m
	Japan	Below upper secondary	m	m	m	m	m	m	m	m	m	78	m
		Tertiary	m	m	m	m	m	m	m	m	m	161	m
	Korea	Below upper secondary	69	m	m	m	m	75	m	m	m	97	m
		Tertiary	141	m	m	m	m	176	m	m	m	167	m
	Luxembourg	Below upper secondary	m	m	m	m	74	m	m	m	73	m	m
		Tertiary	m	m	m	m	131	m	m	m	134	m	m
	Netherlands	Below upper secondary	m	m	m	m	72	m	m	m	75	m	m
		Tertiary	m	m	m	m	155	m	m	m	159	m	m
	New Zealand	Below upper secondary	88	78	86	82	86	84	83	79	89	85	83
		Tertiary	128	121	126	130	131	127	123	123	122	126	125
	Norway	Below upper secondary	84	83	m	81	81	81	81	81	81	81	m
		Tertiary	136	135	m	135	135	137	136	135	134	134	m
	Poland	Below upper secondary	77	76	m	74	73	m	74	m	76	m	75
		Tertiary	145	148	m	155	159	m	166	m	165	m	161
	Portugal	Below upper secondary	62	63	m	m	m	m	66	66	67	m	m
		Tertiary	171	170	m	m	m	m	173	173	173	m	m
	Slovak Republic	Below upper secondary	m	m	m	m	m	m	m	m	m	m	72
		Tertiary	m	m	m	m	m	m	m	m	m	m	176
	Spain	Below upper secondary	66	m	m	64	m	m	78	m	m	70	m
		Tertiary	137	m	m	125	m	m	141	m	m	149	m
	Sweden	Below upper secondary	89	88	m	87	87	88	87	86	85	84	82
		Tertiary	125	126	m	129	129	128	127	126	126	127	126
	Switzerland	Below upper secondary	73	72	72	73	74	76	77	76	76	76	76
		Tertiary	150	146	144	148	148	151	153	148	159	156	156
	Turkey	Below upper secondary	m	m	m	m	m	m	46	43	m	m	m
		Tertiary	m	m	m	m	m	m	164	154	m	m	m
	United Kingdom	Below upper secondary	67	68	69	73	69	69	72	71	70	70	73
		Tertiary	176	178	176	187	177	182	180	181	182	181	177
	United States	Below upper secondary	63	61	62	m	63	66	62	63	63	61	60
		Tertiary	163	163	164	m	165	167	166	167	170	167	171
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	44	46
		Tertiary	m	m	m	m	m	m	m	m	m	270	271
	Estonia	Below upper secondary	m	m	m	m	m	m	m	m	m	m	82
		Tertiary	m	m	m	m	m	m	m	m	m	m	146
	Israel	Below upper secondary	m	m	m	m	m	m	m	72	67	67	67
		Tertiary	m	m	m	m	m	m	m	157	150	155	153
	Slovenia	Below upper secondary	m	m	m	m	m	m	71	m	72	72	m
		Tertiary	m	m	m	m	m	m	190	m	188	187	m

Note: Belgium, Korea and Turkey report earnings net of income tax. The Czech Republic, Hungary, Luxembourg, Poland, Portugal and the partner country Slovenia report earnings excluding data for individuals in part-time work. Hungary, Luxembourg, Poland and the partner country Slovenia also exclude data on part-year earnings.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310206

A7

Table A7.3a.

Differences in earnings between females and males (2008 or latest available year)

Average annual full time, full year earnings of females as a percentage of males', by level of educational attainment of 25-64, 35-44 and 55-64 year-olds

			Below upper secondary education			Upper secondary and post-secondary non-tertiary education			Tertiary education			All levels of education		
			25-64	35-44	55-64	25-64	35-44	55-64	25-64	35-44	55-64	25-64	35-44	55-64
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	2005	92	88	99	85	87	77	79	80	76	87	88	84
	Austria	2008	75	71	69	77	76	84	71	73	67	75	73	75
	Belgium	2006	70	73	67	76	74	83	78	82	74	82	83	76
	Canada	2007	61	68	63	74	70	73	70	76	59	73	75	63
	Czech Republic	2008	76	72	81	79	73	85	71	67	78	73	66	75
	Denmark	2006	72	68	57	82	83	87	74	72	76	80	78	78
	Finland	2007	79	78	77	77	76	77	73	72	72	78	77	74
	France	2006	72	76	63	80	78	82	73	81	55	79	84	65
	Germany	2008	72	69	70	81	86	66	73	76	68	76	79	67
	Greece	2006	54	61	45	71	78	67	73	68	89	74	77	60
	Hungary	2008	84	83	86	92	86	105	68	57	75	85	79	86
	Iceland	2006	75	67	90	71	67	69	63	58	70	73	68	74
	Italy	2006	74	71	83	72	81	84	54	52	45	74	77	76
	Korea	2007	60	66	67	74	58	74	68	84	58	61	59	57
	Luxembourg	2006	80	85	55	69	76	78	72	73	78	78	79	71
	Netherlands	2006	76	76	77	78	83	74	71	79	65	79	85	74
	New Zealand	2008	74	78	67	77	76	73	76	74	76	78	77	74
	Norway	2007	76	74	78	72	72	74	68	68	69	74	74	73
	Poland	2006	66	65	62	74	67	91	73	66	73	81	77	83
	Portugal	2006	65	66	58	73	75	74	71	70	72	79	77	65
	Slovak Republic	2008	73	71	74	75	72	83	70	61	79	73	68	80
	Spain	2007	73	72	74	78	85	86	82	82	75	84	86	79
	Sweden	2006	84	94	82	79	77	80	76	72	77	81	78	83
	United Kingdom	2008	76	82	78	70	69	72	77	77	78	78	76	77
	United States	2008	69	67	65	71	69	75	65	68	62	70	71	65
	OECD average		*73*	*74*	*72*	*76*	*76*	*79*	*72*	*71*	*71*	*77*	*77*	*73*
Partner countries	Brazil	2008	64	63	62	60	56	57	62	67	56	76	75	71
	Estonia	2008	55	63	66	61	61	72	66	64	74	67	68	76
	Israel	2008	73	69	71	75	74	70	64	64	67	72	70	70
	Slovenia	2006	86	85	85	88	87	97	80	81	99	92	92	104

Source: OECD, LSO Network Economic Working Group special data collection on full time, full year earnings. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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A7

Table A7.3b.

Trends in differences in earnings between females and males (1998-2008)

Average annual earnings of females as a percentage of earnings of males, by level of educational attainment of 25-64 year-olds

OECD countries

		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	Below upper secondary	m	66	m	62	m	m	m	61	m	m	m
	Upper secondary and post-secondary non-tertiary	m	64	m	62	m	m	m	60	m	m	m
	Tertiary	m	67	m	63	m	m	m	65	m	m	m
Austria	Below upper secondary	m	m	m	m	m	m	m	57	58	60	61
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	60	59	58	59
	Tertiary	m	m	m	m	m	m	m	62	60	62	59
Belgium	Below upper secondary	m	m	64	m	65	66	66	67	m	m	m
	Upper secondary and post-secondary non-tertiary	m	m	72	m	72	74	74	75	m	m	m
	Tertiary	m	m	74	m	76	74	74	73	m	m	m
Canada	Below upper secondary	53	53	m	m	m	52	52	53	53	52	m
	Upper secondary and post-secondary non-tertiary	61	61	m	m	m	60	59	60	61	63	m
	Tertiary	62	62	m	m	m	61	61	62	62	63	m
Czech Republic	Below upper secondary	66	66	m	m	m	m	74	74	73	75	75
	Upper secondary and post-secondary non-tertiary	69	69	m	m	m	m	80	80	80	79	78
	Tertiary	65	65	m	m	m	m	67	68	67	68	67
Denmark	Below upper secondary	73	73	m	74	75	73	74	73	72	73	74
	Upper secondary and post-secondary non-tertiary	71	71	m	71	73	71	71	71	71	72	72
	Tertiary	66	66	m	67	68	67	67	67	67	67	67
Finland	Below upper secondary	77	77	76	76	76	76	76	78	77	76	m
	Upper secondary and post-secondary non-tertiary	72	72	71	71	72	72	72	73	72	71	m
	Tertiary	65	62	61	63	64	66	65	65	64	65	m
France	Below upper secondary	68	68	m	m	70	68	68	68	68	70	70
	Upper secondary and post-secondary non-tertiary	75	75	m	m	77	75	74	75	74	75	75
	Tertiary	69	69	m	m	70	72	70	70	69	70	73
Germany	Below upper secondary	74	70	56	m	53	54	54	52	56	55	49
	Upper secondary and post-secondary non-tertiary	67	68	63	m	61	60	60	62	62	59	60
	Tertiary	68	60	61	m	60	58	60	62	58	59	58
Greece	Below upper secondary	m	m	m	m	m	m	m	m	m	m	m
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	m
	Tertiary	m	m	m	m	m	m	m	m	m	m	m
Hungary	Below upper secondary	80	84	83	83	85	89	89	88	93	87	85
	Upper secondary and post-secondary non-tertiary	86	89	88	88	93	95	96	93	96	91	93
	Tertiary	63	62	62	62	67	71	72	69	70	68	69
Ireland	Below upper secondary	48	m	46	m	48	m	49	44	m	m	m
	Upper secondary and post-secondary non-tertiary	63	m	60	m	57	m	61	55	m	m	m
	Tertiary	70	m	71	m	62	m	60	67	m	m	m
Italy	Below upper secondary	70	m	76	m	70	m	67	m	67	m	m
	Upper secondary and post-secondary non-tertiary	62	m	65	m	66	m	71	m	66	m	m
	Tertiary	52	m	62	m	60	m	52	m	53	m	m
Japan	Below upper secondary	m	m	m	m	m	m	m	m	m	43	m
	Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	41	m
	Tertiary	m	m	m	m	m	m	m	m	m	47	m
Korea	Below upper secondary	56	m	m	m	m	48	m	m	m	60	m
	Upper secondary and post-secondary non-tertiary	70	m	m	m	m	47	m	m	m	46	m
	Tertiary	75	m	m	m	m	65	m	m	m	61	m
Luxembourg	Below upper secondary	m	m	m	m	80	m	m	m	87	m	m
	Upper secondary and post-secondary non-tertiary	m	m	m	m	86	m	m	m	88	m	m
	Tertiary	m	m	m	m	75	m	m	m	75	m	m
Netherlands	Below upper secondary	m	m	m	m	49	m	m	m	48	m	m
	Upper secondary and post-secondary non-tertiary	m	m	m	m	58	m	m	m	55	m	m
	Tertiary	m	m	m	m	62	m	m	m	58	m	m

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310206

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Table A7.3b. *(continued)*

Trends in differences in earnings between females and males (1998-2008)

Average annual earnings of females as a percentage of earnings of males, by level of educational attainment of 25-64 year-olds

			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
OECD countries	**New Zealand**	Below upper secondary	62	57	67	63	67	67	68	61	68	68	61
		Upper secondary and post-secondary non-tertiary	58	64	64	63	65	64	63	64	64	62	64
		Tertiary	58	59	61	65	65	60	62	61	64	61	64
	Norway	Below upper secondary	60	61	m	63	64	66	66	65	65	65	m
		Upper secondary and post-secondary non-tertiary	61	62	m	62	63	64	64	63	63	63	m
		Tertiary	62	62	m	63	64	65	65	63	63	63	m
	Poland	Below upper secondary	73	72	m	72	73	m	73	m	71	m	69
		Upper secondary and post-secondary non-tertiary	81	81	m	83	84	m	84	m	81	m	80
		Tertiary	68	66	m	69	68	m	68	m	69	m	68
	Portugal	Below upper secondary	71	71	m	m	m	m	73	73	73	m	m
		Upper secondary and post-secondary non-tertiary	69	69	m	m	m	m	70	71	71	m	m
		Tertiary	66	65	m	m	m	m	67	67	67	m	m
	Slovak Republic	Below upper secondary	m	m	m	m	m	m	m	m	m	m	72
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	72
		Tertiary	m	m	m	m	m	m	m	m	m	m	68
	Spain	Below upper secondary	61	m	m	58	m	m	63	m	m	58	m
		Upper secondary and post-secondary non-tertiary	76	m	m	71	m	m	68	m	m	68	m
		Tertiary	69	m	m	64	m	m	73	m	m	77	m
	Sweden	Below upper secondary	74	74	m	74	74	75	75	74	74	73	73
		Upper secondary and post-secondary non-tertiary	72	73	m	71	72	73	73	73	73	72	73
		Tertiary	66	67	m	65	67	68	69	68	68	68	69
	Switzerland	Below upper secondary	51	50	53	51	53	55	55	54	55	57	53
		Upper secondary and post-secondary non-tertiary	55	56	58	58	56	56	56	57	56	57	55
		Tertiary	61	61	62	61	60	61	62	60	65	62	62
	Turkey	Below upper secondary	m	m	m	m	m	m	52	47	m	m	m
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	75	78	m	m	m
		Tertiary	m	m	m	m	m	m	89	78	m	m	m
	United Kingdom	Below upper secondary	48	49	50	52	53	53	55	55	53	56	59
		Upper secondary and post-secondary non-tertiary	54	54	54	52	55	55	54	56	56	55	55
		Tertiary	64	62	63	66	67	66	66	69	69	69	68
	United States	Below upper secondary	60	59	59	m	63	67	63	63	65	64	60
		Upper secondary and post-secondary non-tertiary	62	61	60	m	63	64	63	65	65	66	65
		Tertiary	58	59	56	m	58	61	59	59	60	61	59
Partner countries	**Brazil**	Below upper secondary	m	m	m	m	m	m	m	m	m	49	49
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	58	56
		Tertiary	m	m	m	m	m	m	m	m	m	55	57
	Estonia	Below upper secondary	m	m	m	m	m	m	m	m	m	m	54
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	m	m	m	59
		Tertiary	m	m	m	m	m	m	m	m	m	m	64
	Israel	Below upper secondary	m	m	m	m	m	m	m	57	56	52	57
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	m	59	64	63	62
		Tertiary	m	m	m	m	m	m	m	58	57	59	58
	Slovenia	Below upper secondary	m	m	m	m	m	m	84	m	82	81	m
		Upper secondary and post-secondary non-tertiary	m	m	m	m	m	m	88	m	86	84	m
		Tertiary	m	m	m	m	m	m	77	m	77	76	m

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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WHAT ARE THE INCENTIVES TO INVEST IN EDUCATION?

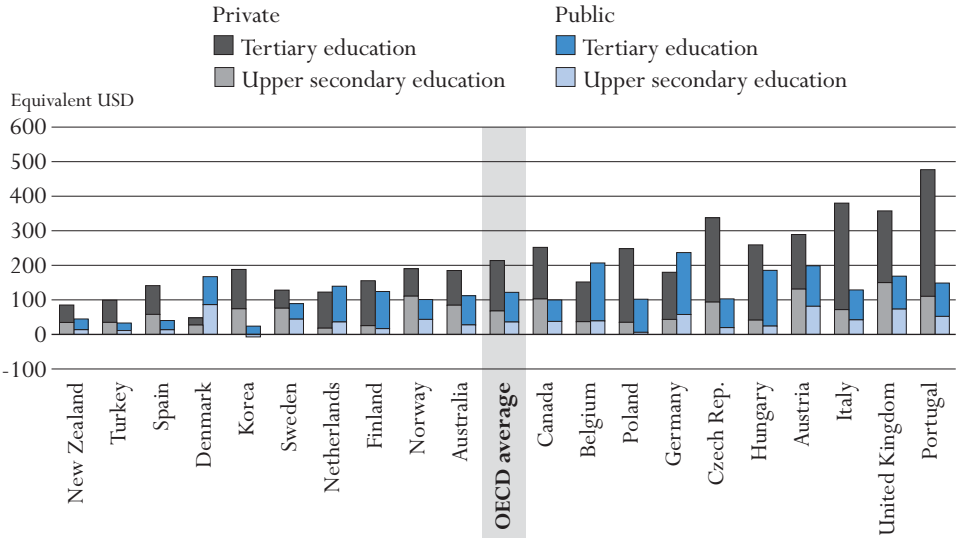
This indicator examines incentives to invest in education by estimating the value of education in 20 OECD countries. The financial returns to education are calculated for investments undertaken as a part of initial education and account for the main costs and benefits associated with this investment decision. The discounted values of private and public investments in education are given for upper secondary or post-secondary non-tertiary and tertiary education.

Key results

Chart A8.1. Private and public economic returns for a male obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4, and obtaining a tertiary education, ISCED 5/6, as part of initial education (2006)

This chart depicts the present value of an investment's future cash flows net of the initial investment, discounted at a 3% real interest rate.

Investments in education generate substantial financial rewards in all OECD countries. Additional education beyond compulsory schooling produces large returns from both an individual's and a public perspective. The total return (private and public) for a male completing upper secondary education and successfully completing a tertiary degree exceeds USD 500 000 in Italy, Portugal and the United Kingdom. On average across OECD countries, the total return exceeds USD 335 000. The rewards to individuals for tertiary education are on average substantially higher (USD 145 000) than for upper secondary education (USD 68 000). This reflects the fact that an upper secondary education has become the norm in OECD countries. In some countries, individuals need to obtain tertiary education to reap the full financial rewards of education beyond compulsory schooling.



Note: Korea refers to 2003, Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006.
Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in ascending order of the total (private + public) net present value for males immediately acquiring a level of education (upper secondary + tertiary).
Source: OECD. Tables A8.1, A8.2, A8.3 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

Other highlights of this indicator

- Even if tertiary education brings more economic benefits, the gross earnings premium exceeds USD 200 000 over the working life of a male with an upper secondary education or post-secondary non-tertiary education in Austria, Norway, Portugal and the United Kingdom. Unemployment effects play an important role in the Czech Republic and Germany where better employment prospects are valued at USD 78 000 or more.

- At the tertiary level, the value of the gross earnings premium for males and females is substantial. On average, it is close to USD 300 000 for males and exceeds USD 200 000 for females across OECD countries. Males in Hungary, Italy, Portugal and the United Kingdom can expect to earn an additional USD 400 000 over their working lives compared to those with upper secondary and post-secondary non-tertiary education.

- On average across OECD countries, a female investing in tertiary education can expect a net gain of close to USD 100 000. In Korea, Portugal and the United Kingdom, the investment generates a net value over USD 150 000 and thus creates a strong incentive to complete this level of education.

- In Austria, Canada, Germany, the Netherlands and the United Kingdom, an individual invests over USD 60 000 to acquire a tertiary qualification, when direct and indirect costs are taken into account. The decision to continue education at the tertiary level thus presents a challenge. In many countries ready access to student loans appears to be important to ensure that liquidity constraints do not hinder these investments. In the Netherlands investment costs are high due to the long duration of studies (shorter ISCED 5B programmes do not exist).

- On average across countries, the net public return to an investment in tertiary education is USD 86 000 for males, when accounting for the main costs and benefits of this level of education. This is almost three times the amount of public investment in tertiary education, and as such, provides a strong incentive for governments to expand higher education.

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Policy context

Economic returns to education are a key driver of individuals' decisions to invest time and money in education beyond compulsory schooling. The monetary benefits of completing higher levels of education motivate individuals to postpone consumption today for future rewards. From a policy perspective, awareness of economic incentives is crucial to understand the flow of individuals through the education system.

A problem for policy makers is the fact that changes in education policies generally take some time to have an impact on the labour market. Large shifts in the demand for education can drive up earnings and returns considerably before supply catches up. This provides a strong signal both to individuals and to the education system about the need for additional investment. However, the labour market may not efficiently signal demand because of rigid labour laws and structures that tend to compress wages across different educational groups.

Nevertheless, apart from the earnings differentials, major components of the return to education are directly linked to policy: access to education, taxes and the costs of education for the individual. Very high private returns suggest that education may need to be expanded by increasing access and by making loans more readily available to individuals, rather than by lowering the costs of education. Low returns indicate that individuals do not have enough incentives to invest in education, either because education is not rewarded in the labour market, or because costs, in terms of tuition fees, foregone earnings and taxation, are relatively high.

Economic benefits of education flow not only to the individual but also to society through lower social transfers and through the additional taxes individuals pay once they enter the labour market. The public returns to education, which take into account the costs and benefits of education for governments, provide additional information on the overall returns to education. In shaping policies, it is important to consider the balance between private and public returns. This indicator takes a closer look at individual and public incentives to invest in education, as well as incentives for males and females at different educational levels.

Evidence and explanations

Financial returns to investment in education

The relationship between education and earnings can be evaluated in an investment analysis framework. The overall benefits of education can be assessed by estimating the economic value of the investment, which essentially measures the degree to which the costs of attaining higher levels of education translates into higher levels of earnings.

The indicator accounts for substantially more factors that influence returns than past research on this topic. To understand how costs and benefits are shared between the private and public side, the calculation of benefits includes taxes, social contributions and social transfers as well as differences in the probability of finding work by educational level. The cost components of the investment include public and private direct costs, foregone earnings while in school adjusted for the probability of finding work, as well as taxes, social contributions and social transfers to arrive at a net investment cost for the private and public side.

In practice, raising levels of education will give rise to a complex set of fiscal effects beyond those currently taken into account. As earnings generally increase with educational attainment, those

with higher levels of education consume more goods and services, and thus pay additional taxes on their consumption. In current calculations the public returns are underestimated. Those with higher earnings typically also pay more into their pension schemes, and, after leaving the labour force, they will have a further income advantage which is not currently taken into account in the calculations. Similarly, many governments have schemes that provide grants and loans to students at interest rates below those used in this exercise. These subsidies can often make a substantial difference in the returns to education for the individual. The developing nature of this indicator should thus be taken into account when assessing the returns to education in different countries.

In calculating the returns to education the approach taken here is the net present value (NPV) of the investment. In this framework, lifetime costs and benefits are transferred back to the start of the investment. This is done by discounting all cash flows back to the beginning of the investment with a set rate of interest (discount rate). The choice of interest rate is difficult, as it should reflect not only the overall time horizon of the investment, but also the cost of borrowing or the perceived risk of the investment. To keep things simple, and to make the interpretation of results easier, the same discount rate is applied across all OECD countries.

The discount rate used here is 3% which largely reflects the fact that the calculations are made in constant prices (see the section on definitions and methodology for a discussion of the discount rate). Discounting the costs and benefits to the present value with this interest rate makes the financial returns on the overall investment and values of the different components comparable across time and countries. The same unit of analysis also has the advantage of making it possible to add or subtract components across different educational levels or between the private and public side to understand how different factors interact.

Net present value (NPV) calculations are based on the same method as internal rate of return (IRR) calculations. The main difference between the two methods lies in how the interest rate is set. For calculations developed within the IRR framework, the interest rate is raised to the level at which the economic benefits equal the cost of the investment and it pinpoints the discount rate at which the investment breaks even.

In the NPV approach, the discount rate is fixed at the beginning of the analysis and the economic benefits and costs are then valued in line with the chosen interest rate. The net present value has some advantages over IRR in that it is better suited to long-term investments. IRR typically favours short-term investments with large cash flows that are close in time with the investment. The net present value is thus better suited for educational investments which typically span several decades. A further advantage of the NPV method is its flexibility and the possibility to analyse the different components that make up the overall returns.

It is important to note that the NPV ranks investments differently from the IRR because of differences in the magnitude of cash flows and how these are distributed over the lifetime of the investment. Internal rates of return are given in the tables to provide some guidance on the interest rate at which the investment breaks even in different countries. However, the analysis focuses on how the value of education differs between countries. The economic benefits of tertiary education are compared to upper secondary education and for upper secondary education, below upper secondary education are used as a point of reference. In the calculations, females are benchmarked against females and males against males.

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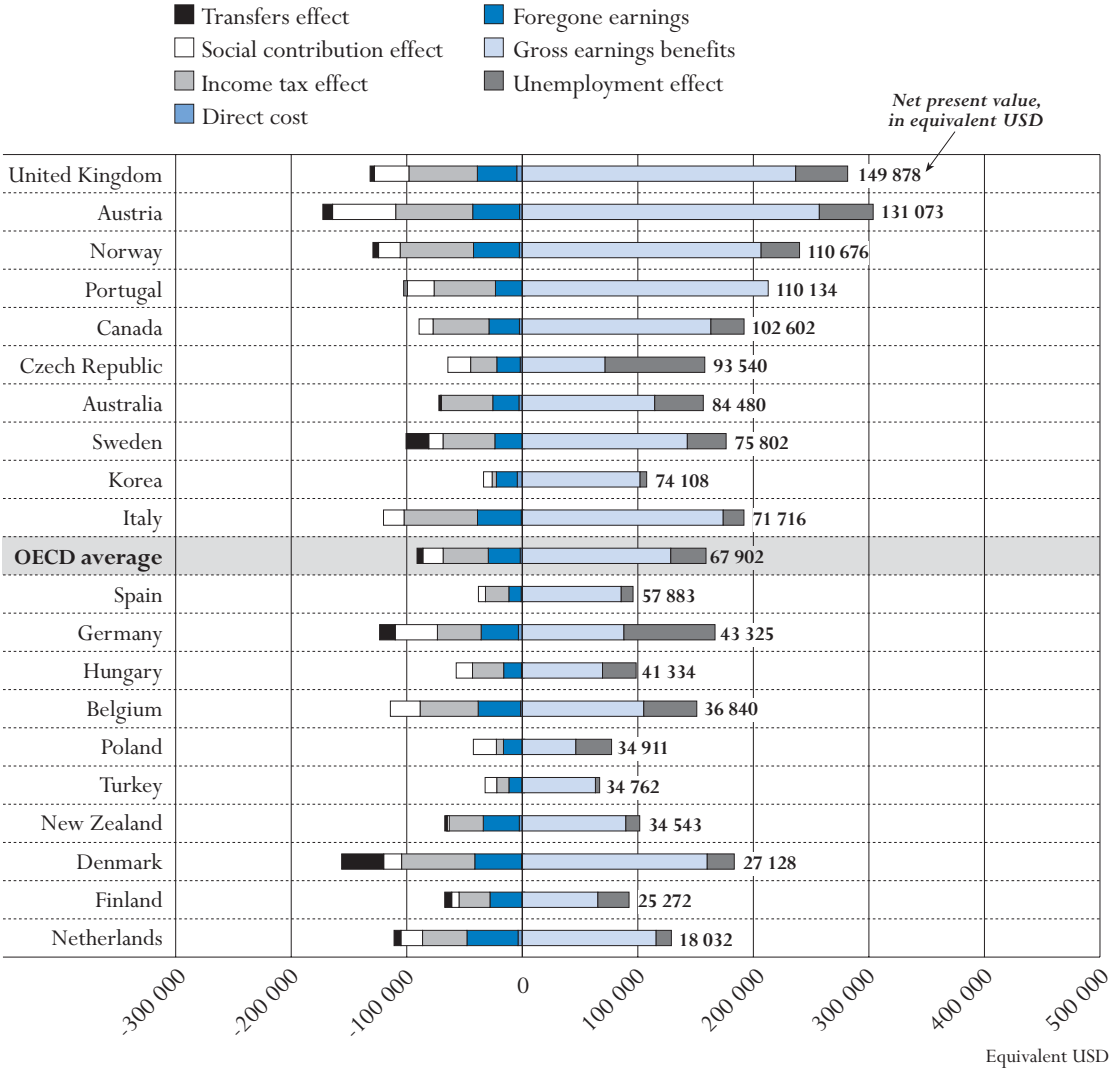
Incentives for the individual to invest in education

Upper secondary education or post-secondary non-tertiary education

The different costs and benefits make up the components of the value of education, and as such, describe the key drivers of the returns to education in different countries. In order to visualise the main factors influencing the returns, each cost and benefit is discounted back in time at a discount rate of 3%. Table A8.1 shows the value of each component and the net present value of the overall investment for a female and male attaining upper secondary education or postsecondary non-tertiary education.

Chart A8.2. Components of the private net present value for a male obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4 (2006)



Note: Korea refers to 2003, Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006. Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in descending order of the net present value.
Source: OECD. Table A8.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

Chart A8.2 shows these components for a male investing in an upper secondary education or post-secondary non-tertiary education. At this level of education the direct costs of education are typically negligible and the main investment cost is foregone earnings. Depending on the length of education, salary levels and the possibility of finding a job, foregone earnings vary substantially among countries. In Spain and Turkey foregone earnings are less than USD 13 000, while in Austria, Denmark and the Netherlands they exceed USD 40 000. Good labour market prospects for young individuals without an upper secondary education thus increase the opportunity costs of further investment in education. Note that recent policies to extent compulsory schooling to upper secondary education in the Netherlands make a comparison to other OECD countries less viable. Because compulsory education reaches until the age of 18, few 15-18 year-olds will be out of education and working.

Gross earnings and unemployment effects over an individual's working life make up the benefit side. In Austria, Norway, Portugal and the United Kingdom the discounted gross earnings effect exceeds USD 200 000 over the working life of a male with upper secondary education or post-secondary non-tertiary education. Unemployment effects play an important role in the Czech Republic and Germany where the better employment prospects are valued at USD 78 000 or more.

Income taxes, social contributions, and transfer effects bring down the benefit side, and on average across countries, a male investing in upper secondary education or post-secondary non-tertiary education can expect a gain of approximately USD 68 000 over his working life. However, the amount varies significantly among countries; in Austria and the United Kingdom this level of education generates over USD 130 000 but in Belgium, Denmark, Finland, the Netherlands, New Zealand, Poland and Turkey the net benefits are less than USD 40 000 (Table A8.1).

Males generally have better financial returns to their upper secondary education or post-secondary non-tertiary education than females, except in Belgium, Hungary, Italy, the Netherlands, Poland and Spain. The impact of the different components of the investment is typically stronger, except for transfer effects, as some countries' social safety nets may work against females investing in further education. Low female wages at below upper secondary education interact with social benefit schemes in some countries and take away some of the income advantage of completing an upper secondary education.

Tertiary education

The rewards for investing in tertiary education are typically higher for males except in Australia, Korea, Spain and Turkey where the returns are higher for females (Table A8.2). On average across OECD countries, a female investing in tertiary education can expect a net gain of close to USD 100 000 and a male of almost USD 150 000.

The present value of the gross earnings premium for males and females is substantial, on average USD 300 000 for males and USD 200 000 for females across OECD countries. Males in Hungary, Italy, Portugal and the United Kingdom can expect to earn an additional USD 400 000 over their working life compared to an individual with upper secondary and post-secondary non-tertiary education.

Chart A8.3 shows the components of the returns to tertiary education for females in different countries. Relative to upper secondary and post-secondary non-tertiary education, the impact of unemployment benefits is less pronounced than the earnings differential, and taxes and the direct costs of education play a substantially larger role.

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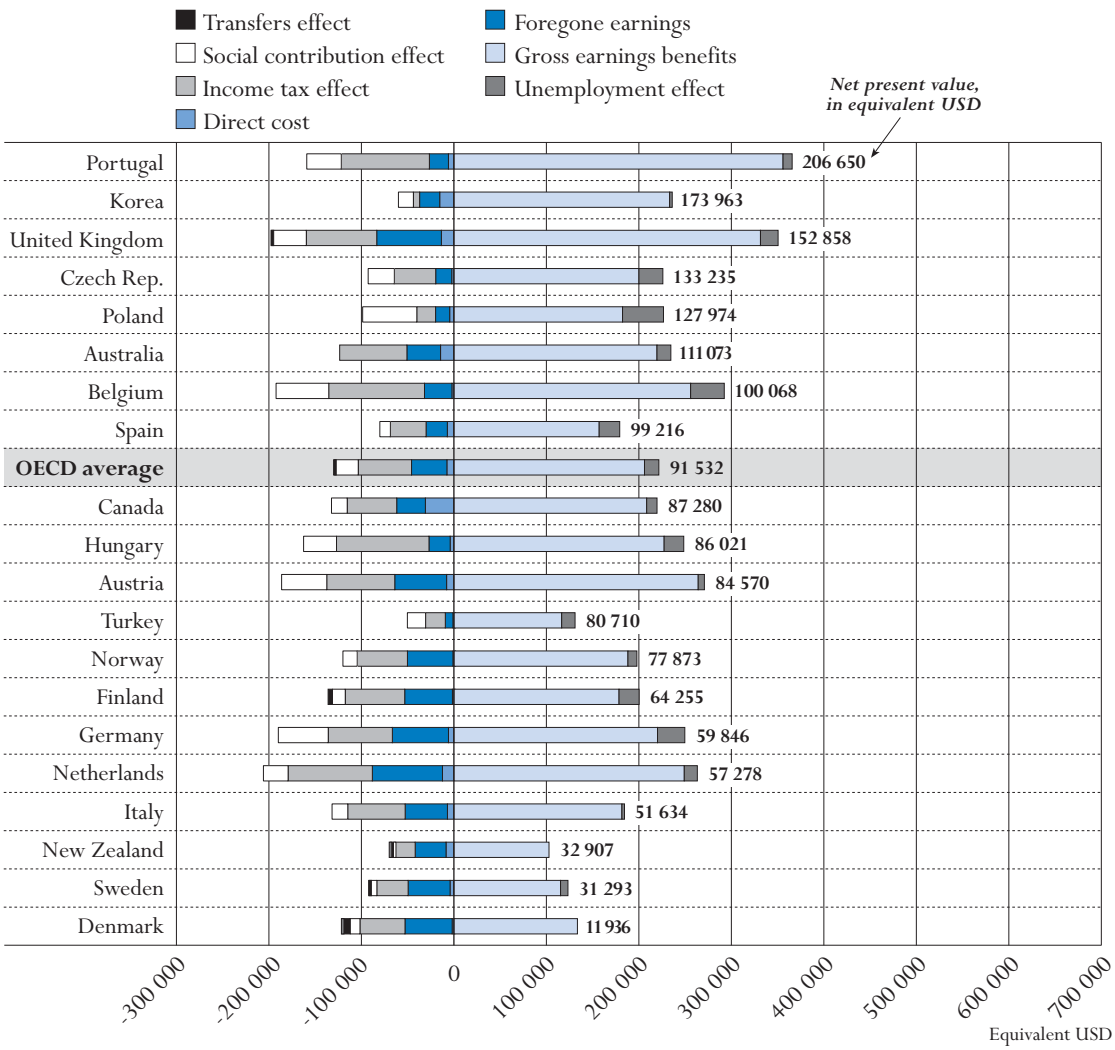
As for upper secondary and post-secondary non-tertiary education, the returns to tertiary education are largely driven by the earnings premium; other components are less important in explaining differences among OECD countries. This suggests that it is important for policy makers to understand the supply of and demand for education. The components illustrated in Chart A8.3 show, however, the importance of specific factors in different countries and thus indicate areas in which policy can help to improve incentives.

Tertiary education brings for females substantial rewards in Korea, Portugal and the United Kingdom, where an investment generates over USD 150 000 and thus gives a strong incentive to complete this level of education. In some countries females need to continue their education to tertiary level to fully reap the economic benefits of education beyond compulsory schooling.

Chart A8.3. Components of the private net present value for a female obtaining tertiary education, ISCED 5/6 (2006)



Note: Korea refers to 2003, Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006. Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in descending order of the net present value.
Source: OECD. Table A8.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

In Korea and Portugal tertiary education generates for females more than USD 100 000 in additional rewards compared with upper secondary education.

The returns to tertiary education are below USD 40 000 in Denmark, New Zealand and Sweden. However, many countries have favourable and substantial student loans and grants which lower investment costs and make incentives to invest more attractive. Loans and grants are a particularly important tool for recruiting students from less affluent backgrounds.

Box A8.1. Estimating returns to education

There are essentially two main approaches to estimating the financial returns to education, founded either on investment theory, from the finance literature, or on an econometric specification, from the labour economics literature.

The basis for an investment approach is the discount rate (the time-value of money), which makes it possible to compare costs or payments (cash flows) over time. The discount rate can be estimated either by raising it to the level at which financial benefits equal costs, which is then the internal rate of return, or by setting the discount rate at a required rate that takes into consideration the risk involved in the investment, which is then a net present value calculation with the gains expressed in monetary units.

The econometric approach taken in labour economics originates from Mincer (1974) in which returns to education are estimated in a regression relating earnings to years of education, labour market experience and tenure. This basic model has been extended in subsequent work to include educational levels, employment effects and additional control variables such as gender and work characteristics. The drawback of a regression approach is typically the scarcity of information beyond gross earnings which makes it difficult to assess the actual incentives to invest in education that individuals face.

Apart from availability of data, the main difference between the two approaches is that the investment approach is forward-looking (although historical data are typically used) whereas an econometric approach tries to establish the actual contribution of education to gross earnings by controlling for other factors that can influence earnings and returns. This distinction has implications for the assumptions and for the interpretation of returns to education. As the investment approach focuses on the incentives at the time of the investment decision, it is prudent not to remove the effect of (controlling for) other factors as these are part of the returns that an individual can expect to receive when deciding to invest in education.

Depending on the impact of the control variables, how steep the earnings curves are, and how cash flows are distributed over time, the results of the two approaches can diverge quite substantially. Depending on other underlying assumptions, returns may differ between and within a class of models as well. For instance, cash flows can be calculated differently and, depending on the method chosen, returns will vary to some degree. As noted in the introduction the results between net present value and internal rates of return can also diverge quite substantially depending on the size of cash flows and how these are distributed over the life span. It is therefore generally not advisable to compare rates of return from different approaches or studies.

In Denmark, grants amount to USD 7 500 per year for a student not living with his/her parents. Accounting for these grants would reduce the investment cost by more than half and add approximately USD 28 000 to the overall value of a tertiary education. There is, of course, a danger in focusing only on the supply side of the investment. As younger generations become more mobile, a reward structure for more highly educated individuals that is too low will eventually drain some of the high-skilled resources to countries with higher earnings potentials.

There are some trade-offs between taxes and the direct costs of education (tuition fees) which are linked to government support for higher education. In countries with low or no tuition fees individuals typically pay back public subsidies later in life through progressive tax schemes. In countries in which a larger portion of the investment falls on the individual (in the form of tuition fees) earnings differentials are larger and a larger portion of the earnings differential also accrues to the individual. In general there is a positive link, albeit a weak one, between the private direct costs of education and the overall value of the education (net present value of the investment).

Public rate of return to investments in education

Public returns are one way of examining the effect on public-sector accounts of individuals' decisions to invest in education and the effect of policies that affect these investments. Similarly, to warrant intervention by governments to improve private rates of return to education, it is important to consider public returns in order to have a complete picture of overall returns.

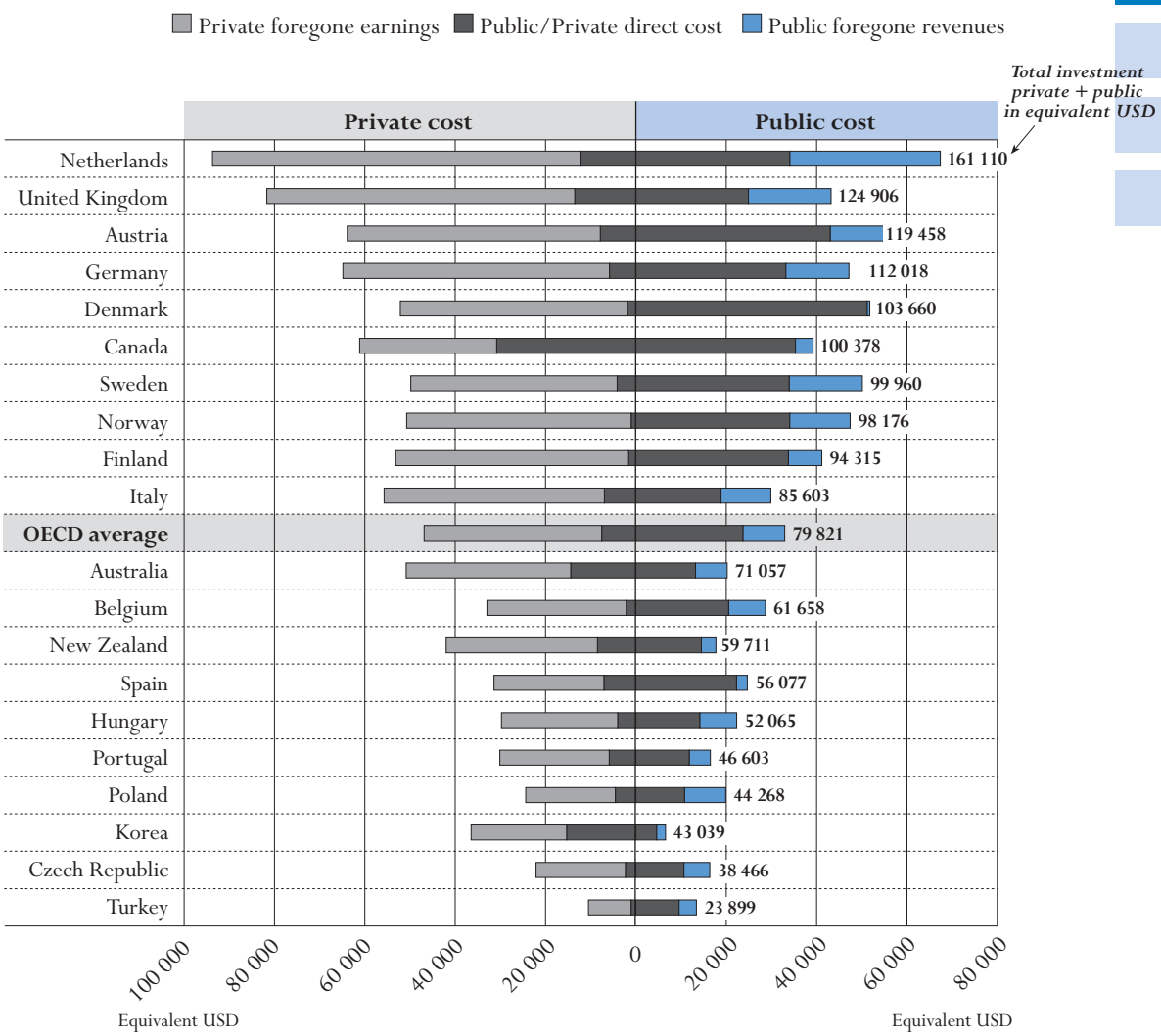
Tables A8.3 and A8.4 show the public returns for individuals who obtain upper secondary or post-secondary non-tertiary education and tertiary education as part of initial education. Chart A8.4 shows the public and private costs for males investing in tertiary education. On average across OECD countries, the value invested in a male obtaining a tertiary education is almost USD 80 000, taking into account public and private spending, as well as indirect costs in the form of public and private foregone earnings and taxes. In Austria, Canada, Denmark, Germany, the Netherlands and the United Kingdom the present value of the investment costs exceeds USD 100 000 (Chart A8.4).

Direct costs for education are generally borne by the public side except in Canada and Korea, where tuition fees constitute a significant share of overall private investment costs for tertiary education. Together with foregone public earnings in the form of taxes and social contributions, direct and indirect public investment costs exceed USD 50 000 in Austria, Denmark, the Netherlands and Sweden for a male with tertiary education. In Korea and Turkey the total public investment cost does not exceed USD 15 000. On average among OECD countries, the total present value of public investment for a male obtaining a tertiary qualification is USD 33 000.

Although public investments in tertiary education are large in many countries, private investment costs exceed them in most countries. In Austria, Canada, Germany, the Netherlands and the United Kingdom an individual invests over USD 60 000 to acquire a tertiary qualification when direct and indirect costs are taken into account. In Canada direct costs, such as tuition fees, represent more than 50% of the investment.

The decision to continue education at a tertiary level is thus a challenge, as much is at stake, particularly for young individuals from less affluent backgrounds. With the substantial private and public gains from tertiary investments, it is very important to provide ready access to student loans to ensure that liquidity constraints do not hinder such investment.

Chart A8.4. Public *versus* private investment for a male obtaining tertiary education (2006)



Note: Korea refers to 2003, Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006. Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in descending order of the total cost private + public.
Source: OECD. Tables A8.2 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

For an individual, foregone earnings make up a substantial part of overall investment costs. In countries with lengthy tertiary education such as Austria, Germany and particularly in the Netherlands where shorter ISCED 5B programmes do not exist, foregone earnings are large (see Indicator B1). In these countries the relative high private investments are thus matched by an approximately equal longer stay in tertiary education. Earnings foregone also depend on expected wage levels and the probability of finding a job. As the labour market for young adults is worsening (see Indicator C3), investment costs will fall and thereby increase the returns to tertiary education. Incentives to invest in education from both the private and the public perspective will thus be greater in most OECD countries.

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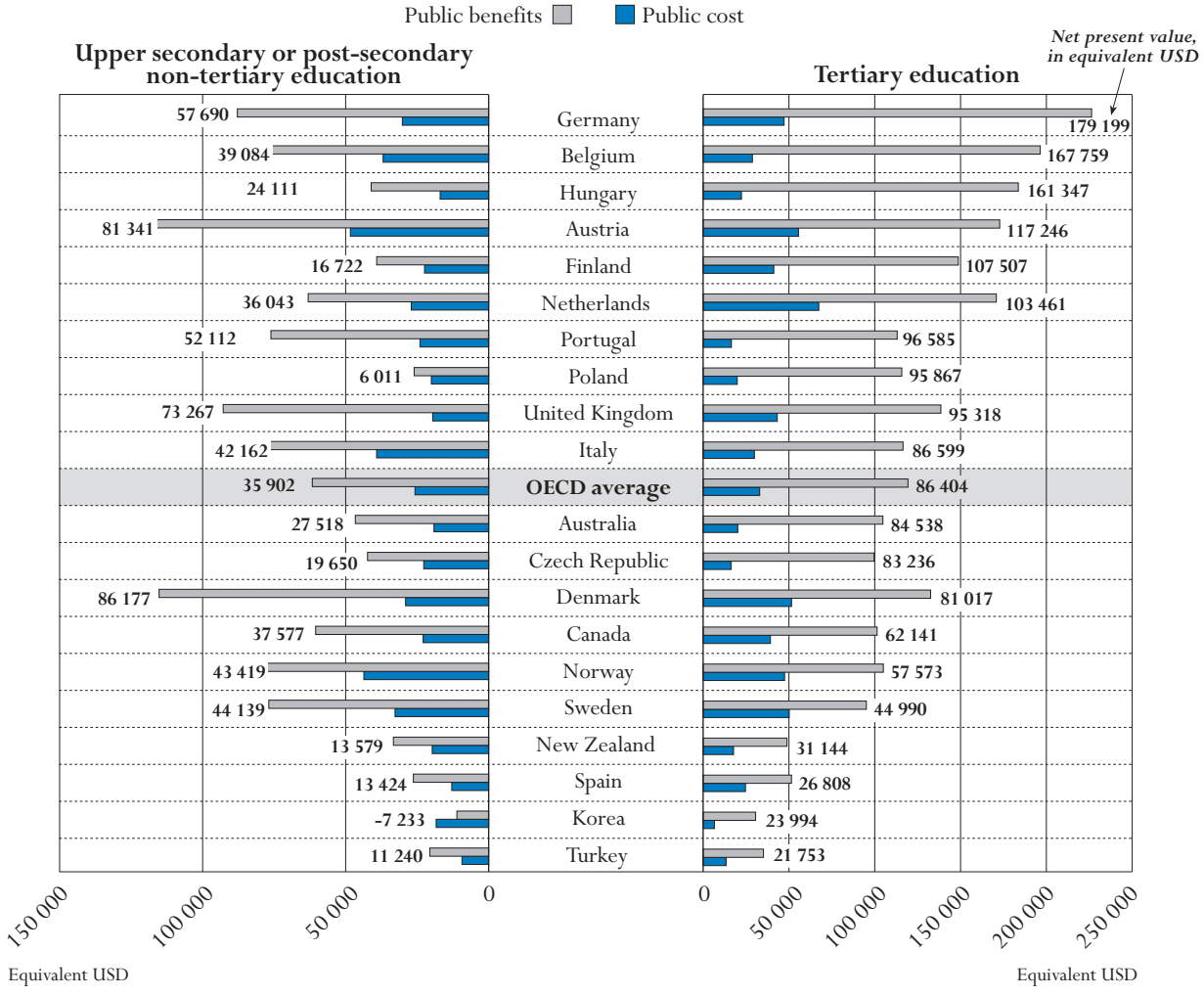
Investments in education also generate public returns as a consequence of higher income levels, in the form of income taxes, increased social insurance payments and lower social transfers. Chart A8.5 compares the costs and economic benefits from the public point of view for a male investing in upper secondary or post-secondary non-tertiary education and in tertiary education.

With few exceptions the public returns to investments in upper secondary or post-secondary non-tertiary education are positive. On average across OECD countries, upper secondary or post-secondary non-tertiary education generates a net return of USD 36 000 and in Austria, Denmark, Germany, Portugal and the United Kingdom the figure is above USD 50 000. The public returns for a female investing in upper secondary or post-secondary non-tertiary education are marginally lower, at USD 7 000 less than for a male on average across OECD countries (Table A8.3).

Chart A8.5. Public cost and benefits for a male obtaining upper secondary or post-secondary non-tertiary education and tertiary education (2006)



Note: Korea refers to 2003, Ireland and Spain to 2004, Australia, Belgium and Turkey to 2005. All other countries refer to 2006.
Cash flows (components) are discounted at a 3% interest rate.
Countries are ranked in descending order of the public net present value obtaining tertiary education.
Source: OECD. Tables A8.3 and A8.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

The public returns to tertiary education are substantially higher than to upper secondary or post-secondary non-tertiary education, in part because a larger share of the investment costs are borne by the individuals themselves. The main factors are, however, the higher taxes and social contributions that flow from the higher income levels of those with tertiary qualifications. In Belgium, Germany and Hungary these benefits exceeds USD 160 000 over an individual's working life (Chart A8.5).

On average across countries, the net public return from an investment in tertiary education is USD 86 000 for a male, when accounting for the main costs and benefits at this level of education. This is almost three times the amount of public investment in tertiary education across OECD countries, and as such, provides a strong incentive for governments to expand higher education.

In conclusion, there seems to be room for additional expansion of higher education either by public or private financing. As this indicator shows, at a real discount rate of 3%, investments in education yield substantial private and public returns in most countries. Public investments in education, particularly at the tertiary level, are rational even in the face of running a deficit in public finances. Issuing government bonds to finance these investments will yield significant returns and improve public finances in the longer term. Public as well as private returns to tertiary education will eventually drop in countries with high returns as supply meets demand, but from the viewpoint of equity this may be a desirable outcome.

Definitions and methodologies

As noted in the introduction the choice of discount rate is a difficult issue. To acknowledge that the calculations are made in constant prices and the fact that, at least on the public side, these investments are essentially risk-free.

To arrive at a reasonable discount rate, long-term government bonds have been used as a benchmark. The average long-term interest rate across OECD countries was approximately 4.5% in 2006. Assuming that central banks in countries have succeeded in anchoring inflation expectations at or below 2% per year, a long-term nominal interest rate of 4.5% implies a real interest rate of 2.5% to 3%. The 3% real discount rate used in this indicator thus corresponds to the nominal interest of approximately 5% used in *Education at a Glance 2009*. The change in the discount rate has a substantial impact on the net present value of education which needs to be taken into account if the results for these two editions are compared.

In the calculation of the private net present value (NPV), private investment costs include after-tax foregone earnings adjusted for the probability of finding a job (unemployment rate) and direct private expenditures on education. Both of these investment streams take into account the duration of studies. On the benefit side, age-earnings profiles are used to calculate the earnings differential between different educational groups (below upper secondary education; upper secondary or post-secondary non-tertiary education; and tertiary education).

These gross earnings differentials are adjusted for differences in income taxes and social contributions as well as social transfers (including housing benefits and social assistance related to earnings level) to arrive at net earnings differentials. The cash flows are further adjusted for probability of finding a job (unemployment rates). The calculations are done separately for males and females to account for differences in earnings differentials and unemployment rates.

In the calculation of public NPV, public costs include lost tax receipts during the years of schooling (income tax and social contributions) and public expenditures (taking into account the duration of studies). Lost tax receipts are low in some countries because young individuals have low earnings levels. Public expenditures on education include direct expenditures (such as payment of teachers' salaries or spending for the construction of school buildings, purchase of textbooks, etc.) and public-private transfers (such as public subsidies to households for scholarships and other grants and to other private entities for provision of training at the workplace, etc.).

The benefits for the public sector are additional tax and social contribution receipts associated with higher earnings and savings on transfers, *i.e.* housing benefits and social assistance that the public sector does not have to pay because of higher levels of earnings.

It is important to consider some of the broad conceptual limitations on the estimates of financial returns performed here:

- The data reported are accounting-based values only. The results no doubt differ from econometric estimates that would use the same data on the micro level rather than a lifetime stream of earnings derived from average earnings.
- The approach used here estimates future earnings for individuals with different levels of educational attainment, based on knowledge of how average present gross earnings vary by level of attainment and age. However, the relationship between different levels of educational attainment and earnings may differ in the future from what it is today. Technological, economic and social changes may all alter how wage levels relate to levels of educational attainment.
- Differences in returns across countries partly reflect different institutional and non-market conditions that bear on earnings, such as institutional conditions that limit flexibility in relative earnings.
- In estimating benefits, the effect of education on increasing the likelihood of employment when wanting to work is taken into account. However, this also makes the estimate sensitive to the stage in the economic cycle at which the data are collected. As more highly educated individuals typically have a stronger attachment to the labour market, the value of education generally increases in times of poor economic growth.

The calculations also involve a number of restrictive assumptions needed for international comparability. For calculations of the investments in education, foregone earnings have been standardised at the level of the legal minimum wage or the equivalent in countries in which the earnings data include part-time work (when no national minimum wage was available, the wage was selected from wages set in collective agreements). This assumption seeks to counterbalance the very low recorded earnings for 15-24 year-olds that led to excessively high estimates in earlier editions of *Education at a Glance*. In the Czech Republic, Hungary, the Netherlands, Poland, Portugal and the United Kingdom actual earnings are used in the calculations of foregone earnings as part-time work is excluded in these earnings data collections.

For the methods employed for the calculation of the rates of return, please see Annex 3 at *www.oecd.org/edu/eag2010*.

Further references

Mincer, J. (1974), "Schooling, Experience, and Earnings", National Bureau of Economic Research (NBER), New York.

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Table A8.1.

Private net present value for an individual obtaining upper secondary or post-secondary non-tertiary education as part of initial education, ISCED 3/4 (2006)

In equivalent USD, converted using PPPs for GDP

OECD countries	Year[1]	Direct cost		Foregone earnings		Total costs		Gross earnings benefits		Income tax effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	-1	-2 891	-2 891	-22 661	-23 380	**-25 553**	**-26 271**	114 598	94 207	-45 267	-29 950
Austria		-2 360	-2 360	-40 556	-39 016	**-42 916**	**-41 376**	257 094	178 802	-66 653	-26 662
Belgium	-1	-1 511	-1 511	-36 691	-31 509	**-38 202**	**-33 020**	105 141	148 948	-50 243	-52 366
Canada		-2 478	-2 478	-26 369	-27 034	**-28 847**	**-29 513**	163 243	143 258	-48 388	-31 623
Czech Republic		-1 787	-1 787	-20 260	-16 230	**-22 048**	**-18 018**	71 667	78 630	-22 673	-19 376
Denmark		-614	-614	-40 502	-40 540	**-41 116**	**-41 154**	160 072	122 514	-63 354	-34 926
Finland		-186	-186	-27 797	-27 110	**-27 983**	**-27 296**	65 403	41 334	-26 788	-15 507
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-3 380	-3 380	-32 250	-32 528	**-35 629**	**-35 908**	87 966	86 107	-37 839	-28 130
Hungary		-747	-747	-15 371	-15 592	**-16 118**	**-16 339**	69 431	67 379	-26 973	-23 838
Italy		-884	-884	-37 895	-33 025	**-38 780**	**-33 909**	173 901	137 400	-63 557	-44 841
Korea	-3	-4 358	-4 358	-18 057	-18 182	**-22 416**	**-22 540**	101 951	4 509	-3 697	520
Netherlands		-3 666	-3 666	-44 221	-42 220	**-47 887**	**-45 886**	115 846	121 122	-38 453	-17 599
New Zealand		-2 598	-2 598	-31 184	-29 980	**-33 782**	**-32 578**	89 623	60 909	-30 434	-14 768
Norway		-2 558	-2 558	-39 671	-39 689	**-42 229**	**-42 246**	206 700	128 213	-63 479	-34 640
Poland		-177	-177	-16 120	-13 249	**-16 297**	**-13 425**	46 353	62 432	-6 124	-7 066
Portugal		-12	-12	-23 219	-20 192	**-23 230**	**-20 203**	212 846	150 215	-53 100	-30 589
Spain	-2	-966	-966	-10 675	-9 157	**-11 642**	**-10 123**	85 624	75 375	-20 229	-15 627
Sweden		-21	-21	-23 725	-23 781	**-23 746**	**-23 802**	142 848	105 423	-44 888	-33 014
Turkey	-1	-336	-336	-11 256	-12 205	**-11 592**	**-12 541**	63 320	75 879	-10 527	-8 168
United Kingdom		-4 773	-4 773	-34 122	-35 464	**-38 894**	**-40 237**	236 620	211 147	-59 240	-50 897
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-1 815*	*-1 815*	*-27 630*	*-26 504*	*-29 445*	*-28 319*	*128 512*	*104 690*	*-39 095*	*-25 953*

OECD countries	Year[1]	Social contribution effect		Transfers effect		Unemployment effect		Total net benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Australia	-1	0	0	-1 364	-17 689	42 065	23 289	**110 032**	**69 857**	**84 480**	**43 586**	**14.4**	**11.9**
Austria		-54 652	-37 211	-8 397	-19 751	46 596	23 156	**173 988**	**118 335**	**131 073**	**76 959**	**12.6**	**9.2**
Belgium	-1	-25 741	-41 993	0	0	45 885	46 051	**75 042**	**100 641**	**36 840**	**67 621**	**6.6**	**10.8**
Canada		-12 100	-14 727	0	-1 672	28 695	24 625	**131 449**	**119 861**	**102 602**	**90 348**	**13.1**	**12.7**
Czech Republic		-19 679	-18 390	0	0	86 273	68 363	**115 588**	**109 226**	**93 540**	**91 209**	**17.6**	**20.2**
Denmark		-15 480	-11 851	-36 387	-45 893	23 393	15 785	**68 243**	**45 629**	**27 128**	**4 475**	**5.8**	**3.4**
Finland		-6 326	-5 074	-6 032	-14 195	26 998	32 448	**53 255**	**39 007**	**25 272**	**11 711**	**7.4**	**5.4**
France		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		-36 486	-29 288	-13 532	-12 609	78 846	48 169	**78 955**	**64 249**	**43 325**	**28 342**	**7.8**	**6.5**
Hungary		-14 101	-13 654	0	0	29 095	28 113	**57 452**	**58 000**	**41 334**	**41 661**	**13.4**	**11.9**
Italy		-17 786	-15 224	0	0	17 938	28 616	**110 496**	**105 951**	**71 716**	**72 042**	**7.2**	**8.5**
Korea	-3	-7 426	-499	0	-3 912	5 696	2 653	**96 524**	**3 271**	**74 108**	**-19 269**	**11.1**	**0.9**
Netherlands		-18 703	-46 965	-5 949	-12 382	13 179	24 165	**65 919**	**68 340**	**18 032**	**22 454**	**4.4**	**4.8**
New Zealand		-1 224	-858	-1 655	-12 984	12 015	10 325	**68 325**	**42 624**	**34 543**	**10 046**	**6.6**	**4.8**
Norway		-18 695	-11 294	-4 876	-14 435	33 255	16 917	**152 905**	**84 762**	**110 676**	**42 515**	**12.8**	**7.1**
Poland		-19 927	-22 813	0	0	30 906	26 653	**51 208**	**59 205**	**34 911**	**45 780**	**10.6**	**11.9**
Portugal		-23 029	-17 666	0	0	-3 353	10 416	**133 364**	**112 376**	**110 134**	**92 173**	**11.6**	**12.0**
Spain	-2	-6 095	-5 860	0	0	10 225	17 378	**69 525**	**71 265**	**57 883**	**61 142**	**11.7**	**14.6**
Sweden		-12 329	-9 636	-19 654	-24 984	33 571	33 456	**99 548**	**71 244**	**75 802**	**47 442**	**14.3**	**10.2**
Turkey	-1	-10 055	-9 177	0	0	3 617	-14 154	**46 354**	**44 381**	**34 762**	**31 839**	**9.4**	**8.9**
United Kingdom		-29 889	-25 686	-3 697	-46 808	44 978	31 680	**188 773**	**119 436**	**149 878**	**79 200**	**13.4**	**10.5**
United States		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*-17 486*	*-16 893*	*-5 077*	*-11 366*	*30 494*	*24 905*	*97 347*	*75 383*	*67 902*	*47 064*	*10.6*	*9.3*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

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Table A8.2.

Private net present value for an individual obtaining tertiary education as part of initial education, ISCED 5/6 (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone earnings		Total costs		Gross earnings benefits		Income tax effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-14 426	-14 426	-36 420	-36 370	**-50 846**	**-50 796**	255 043	219 590	-104 749	-72 697
Austria		-7 879	-7 879	-56 009	-56 053	**-63 888**	**-63 932**	380 956	264 161	-125 695	-73 537
Belgium	-1	-2 133	-2 133	-30 842	-29 666	**-32 975**	**-31 799**	330 068	255 955	-146 283	-103 529
Canada		-30 820	-30 820	-30 327	-31 009	**-61 147**	**-61 829**	295 609	208 439	-94 636	-53 516
Czech Republic		-2 317	-2 317	-19 785	-17 356	**-22 102**	**-19 673**	349 444	200 077	-65 309	-44 720
Denmark		-1 887	-1 887	-50 254	-50 987	**-52 141**	**-52 874**	212 423	133 560	-111 634	-48 690
Finland		-1 603	-1 603	-51 547	-51 568	**-53 150**	**-53 171**	304 543	178 561	-125 734	-64 291
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-5 852	-5 852	-59 004	-60 677	**-64 856**	**-66 529**	366 445	220 156	-150 124	-69 334
Hungary		-4 034	-4 034	-25 719	-22 910	**-29 753**	**-26 943**	410 323	227 320	-134 380	-99 975
Italy		-6 977	-6 977	-48 756	-45 725	**-55 733**	**-52 701**	485 212	181 641	-92 371	-62 065
Korea	-3	-15 329	-15 329	-21 144	-21 731	**-36 472**	**-37 060**	176 206	233 259	-18 025	-6 734
Netherlands		-12 351	-12 351	-81 366	-75 816	**-93 717**	**-88 167**	360 262	249 090	-157 021	-91 090
New Zealand		-8 509	-8 509	-33 486	-33 351	**-41 994**	**-41 860**	143 270	102 836	-46 971	-22 364
Norway		-1 043	-1 043	-49 699	-49 192	**-50 742**	**-50 235**	235 888	188 187	-86 646	-54 292
Poland		-4 547	-4 547	-19 838	-15 268	**-24 385**	**-19 816**	308 019	182 336	-35 830	-20 299
Portugal		-5 903	-5 903	-24 213	-20 594	**-30 116**	**-26 497**	484 638	355 877	-82 694	-95 240
Spain	-2	-7 086	-7 086	-24 323	-22 996	**-31 409**	**-30 082**	157 114	157 091	-41 161	-38 585
Sweden		-4 149	-4 149	-45 679	-45 346	**-49 829**	**-49 495**	193 165	115 319	-88 264	-33 816
Turkey	-1	-1 061	-1 061	-9 441	-8 217	**-10 502**	**-9 278**	106 984	116 531	-18 705	-21 327
United Kingdom		-13 536	-13 536	-68 162	-69 881	**-81 698**	**-83 418**	410 275	331 462	-114 054	-76 150
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-7 572*	*-7 572*	*-39 301*	*-38 236*	*-46 873*	*-45 808*	*298 294*	*206 072*	*-92 014*	*-57 613*

		Social contribution effect		Transfers effect		Unemployment effect		Total net benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
OECD countries													
Australia	-1	0	0	0	0	1 067	14 976	**151 361**	**161 869**	**100 515**	**111 073**	**9.1**	**11.3**
Austria		-47 120	-48 803	0	0	13 821	6 681	**221 962**	**148 502**	**158 074**	**84 570**	**9.1**	**7.4**
Belgium	-1	-50 159	-56 931	0	0	14 294	36 372	**147 919**	**131 867**	**114 944**	**100 068**	**11.7**	**14.1**
Canada		-6 736	-16 998	0	0	16 283	11 184	**210 520**	**149 109**	**149 373**	**87 280**	**9.6**	**8.8**
Czech Republic		-34 291	-28 291	0	0	16 375	25 841	**266 219**	**152 908**	**244 117**	**133 235**	**22.5**	**19.6**
Denmark		-16 201	-10 647	-4 702	-9 014	-6 880	-399	**73 008**	**64 810**	**20 867**	**11 936**	**4.4**	**4.0**
Finland		-22 938	-13 804	0	-4 733	27 492	21 693	**183 363**	**117 426**	**130 213**	**64 255**	**10.0**	**7.5**
France		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		-76 237	-53 954	0	0	61 335	29 508	**201 418**	**126 375**	**136 563**	**59 846**	**9.0**	**6.5**
Hungary		-49 280	-35 578	0	0	20 934	21 197	**247 598**	**112 964**	**217 845**	**86 021**	**17.7**	**12.8**
Italy		-24 098	-16 963	0	0	-4 712	1 722	**364 031**	**104 335**	**308 299**	**51 634**	**11.5**	**6.6**
Korea	-3	-12 536	-16 175	0	0	4 778	672	**150 423**	**211 022**	**113 951**	**173 963**	**9.4**	**12.9**
Netherlands		-13 833	-26 675	0	0	8 808	14 120	**198 216**	**145 445**	**104 499**	**57 278**	**6.6**	**5.6**
New Zealand		-1 696	-1 217	-194	-3 416	-1 872	-1 073	**92 538**	**74 767**	**50 544**	**32 907**	**7.2**	**6.5**
Norway		-18 361	-15 448	0	0	-559	9 661	**130 322**	**128 108**	**79 580**	**77 873**	**6.6**	**8.3**
Poland		-79 920	-58 532	0	0	45 499	44 285	**237 767**	**147 790**	**213 382**	**127 974**	**20.4**	**19.2**
Portugal		-30 377	-37 339	0	0	25 278	9 848	**396 844**	**233 148**	**366 728**	**206 650**	**18.4**	**18.4**
Spain	-2	-10 315	-11 404	0	0	9 156	22 195	**114 794**	**129 298**	**83 385**	**99 216**	**9.3**	**11.6**
Sweden		-6 857	-8 645	0	-64	4 196	7 995	**102 239**	**80 788**	**52 411**	**31 293**	**6.1**	**5.3**
Turkey	-1	-16 446	-19 686	0	0	2 906	14 471	**74 740**	**89 988**	**64 238**	**80 710**	**19.1**	**19.1**
United Kingdom		-24 472	-37 753	0	-339	17 604	19 056	**289 353**	**236 276**	**207 655**	**152 858**	**11.2**	**8.5**
United States		w	w	w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*-27 094*	*-25 742*	*-245*	*-878*	*13 790*	*15 500*	*192 732*	*137 340*	*145 859*	*91 532*	*11.5*	*10.7*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

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Table A8.3.

Public net present value for an individual obtaining upper secondary or post-secondary non-tertiary education as part of initial education (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone taxes on earnings		Total costs		Income tax effect		Social contribution effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-14 757	-14 757	-4 357	-4 495	**-19 114**	**-19 252**	36 052	25 858	0	0
Austria		-39 292	-39 292	-9 068	-8 724	**-48 361**	**-48 016**	60 880	26 199	46 290	33 072
Belgium	-1	-27 225	-27 225	-9 674	-8 308	**-36 900**	**-35 533**	39 931	44 765	19 578	38 458
Canada		-19 511	-19 511	-3 400	-3 486	**-22 911**	**-22 997**	44 500	29 612	10 174	13 092
Czech Republic		-17 604	-17 604	-5 099	-3 856	**-22 703**	**-21 459**	13 281	13 158	8 953	9 893
Denmark		-28 804	-28 804	-241	-242	**-29 045**	**-29 045**	56 577	30 726	12 787	9 833
Finland		-18 440	-18 440	-3 983	-3 885	**-22 423**	**-22 325**	21 167	10 058	4 487	2 877
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-22 539	-22 539	-7 629	-7 694	**-30 167**	**-30 233**	24 978	23 568	19 538	18 979
Hungary		-13 352	-13 352	-3 611	-3 964	**-16 963**	**-17 316**	23 052	20 758	9 955	9 651
Italy		-30 614	-30 614	-8 568	-7 466	**-39 181**	**-38 080**	59 924	40 842	16 143	12 613
Korea	-3	-16 693	-16 693	-1 663	-1 674	**-18 356**	**-18 368**	3 653	-520	7 036	318
Netherlands		-24 389	-24 389	-2 674	-1 689	**-27 063**	**-26 078**	37 712	16 547	15 315	40 732
New Zealand		-16 743	-16 743	-2 992	-2 876	**-19 735**	**-19 619**	27 907	12 854	1 081	735
Norway		-32 967	-32 967	-10 663	-10 668	**-43 631**	**-43 635**	56 995	32 170	16 117	9 989
Poland		-12 824	-12 824	-7 215	-5 684	**-20 039**	**-18 508**	4 246	5 661	11 991	15 984
Portugal		-19 937	-19 937	-4 081	-3 283	**-24 018**	**-23 220**	53 611	29 640	23 397	16 527
Spain	-2	-11 856	-11 856	-1 044	-896	**-12 900**	**-12 751**	19 104	14 978	5 450	4 768
Sweden		-24 332	-24 332	-8 400	-8 419	**-32 732**	**-32 752**	37 846	26 593	9 999	7 323
Turkey	-1	-4 776	-4 776	-4 566	-4 951	**-9 343**	**-9 728**	9 997	10 025	9 514	11 264
United Kingdom		-15 838	-15 838	-3 721	1 841	**-19 559**	**-13 997**	52 284	46 523	26 142	23 261
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-20 625*	*-20 625*	*-5 132*	*-4 521*	*-25 757*	*-25 146*	*34 185*	*23 001*	*13 697*	*13 968*

		Transfers effect		Unemployment effect		Total benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD countries											
Australia	-1	1 364	17 689	9 215	4 092	**46 632**	**47 639**	**27 518**	**28 387**	**8.6**	**17.2**
Austria		8 397	19 751	14 135	4 602	**129 702**	**83 623**	**81 341**	**35 607**	**8.7**	**6.3**
Belgium	-1	0	0	16 474	11 136	**75 983**	**94 358**	**39 084**	**58 825**	**6.7**	**8.0**
Canada		0	1 672	5 814	3 646	**60 488**	**48 023**	**37 577**	**25 026**	**7.8**	**6.9**
Czech Republic		0	0	20 119	14 715	**42 353**	**37 766**	**19 650**	**16 307**	**6.9**	**6.4**
Denmark		36 387	45 893	9 470	6 219	**115 222**	**92 670**	**86 177**	**63 625**	**18.2**	**16.3**
Finland		6 032	14 195	7 459	7 646	**39 145**	**34 775**	**16 722**	**12 450**	**7.3**	**7.4**
France		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		13 532	12 609	29 809	14 872	**87 857**	**70 026**	**57 690**	**39 793**	**13.4**	**8.8**
Hungary		0	0	8 067	7 083	**41 074**	**37 492**	**24 111**	**20 176**	**8.2**	**6.7**
Italy		0	0	5 277	6 610	**81 343**	**60 065**	**42 162**	**21 984**	**5.7**	**4.8**
Korea	-3	0	3 912	434	181	**11 123**	**3 891**	**-7 233**	**-14 477**	**1.1**	**-1.3**
Netherlands		5 949	12 382	4 130	7 286	**63 106**	**76 947**	**36 043**	**50 869**	**8.1**	**11.6**
New Zealand		1 655	12 984	2 670	2 037	**33 313**	**28 609**	**13 579**	**8 990**	**5.5**	**5.5**
Norway		4 876	14 435	9 061	3 775	**87 050**	**60 368**	**43 419**	**16 733**	**7.6**	**5.4**
Poland		0	0	9 813	8 235	**26 050**	**29 879**	**6 011**	**11 371**	**4.4**	**5.3**
Portugal		0	0	-878	2 087	**76 130**	**48 254**	**52 112**	**25 034**	**7.7**	**5.9**
Spain	-2	0	0	1 771	1 741	**26 324**	**21 488**	**13 424**	**8 736**	**5.8**	**5.0**
Sweden		19 654	24 984	9 372	8 735	**76 871**	**67 635**	**44 139**	**34 883**	**13.0**	**11.5**
Turkey	-1	0	0	1 072	-3 945	**20 583**	**17 345**	**11 240**	**7 617**	**6.3**	**5.6**
United Kingdom		3 697	46 808	10 702	6 799	**92 825**	**123 391**	**73 267**	**109 394**	**13.6**	**22.2**
United States		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*5 077*	*11 366*	*8 699*	*5 878*	*61 659*	*54 212*	*35 902*	*29 067*	*8.2*	*8.8*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

A8

Table A8.4.

Public net present value for an individual obtaining tertiary education as part of initial education (2006)

In equivalent USD, converted using PPPs for GDP

		Direct cost		Foregone taxes on earnings		Total costs		Income tax effect		Social contribution effect	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	-1	-13 209	-13 209	-7 002	-6 993	**-20 211**	**-20 201**	104 353	69 331	0	0
Austria		-43 046	-43 046	-12 524	-12 533	**-55 569**	**-55 579**	122 593	72 558	45 045	47 603
Belgium	-1	-20 552	-20 552	-8 132	-7 822	**-28 684**	**-28 374**	141 880	94 839	48 161	51 975
Canada		-35 321	-35 321	-3 910	-3 998	**-39 231**	**-39 319**	91 361	51 905	5 829	16 197
Czech Republic		-10 644	-10 644	-5 720	-4 671	**-16 363**	**-15 315**	62 961	41 188	32 502	25 068
Denmark		-51 220	-51 220	-300	-304	**-51 519**	**-51 524**	113 669	48 776	16 996	10 711
Finland		-33 779	-33 779	-7 386	-7 389	**-41 165**	**-41 168**	117 875	59 360	21 053	12 323
France		w	w	w	w	**w**	**w**	w	w	w	w
Germany		-33 206	-33 206	-13 957	-14 353	**-47 163**	**-47 559**	135 266	64 369	63 929	47 615
Hungary		-14 177	-14 177	-8 135	-6 807	**-22 312**	**-20 984**	129 176	94 359	46 695	32 550
Italy		-18 847	-18 847	-11 023	-10 338	**-29 870**	**-29 185**	93 319	61 193	24 717	16 803
Korea	-3	-4 619	-4 619	-1 947	-2 001	**-6 566**	**-6 621**	17 850	6 749	12 207	16 129
Netherlands		-34 104	-34 104	-33 289	-28 523	**-67 393**	**-62 627**	155 040	89 205	12 385	23 504
New Zealand		-14 504	-14 504	-3 212	-3 199	**-17 716**	**-17 703**	47 405	22 571	1 718	1 230
Norway		-34 075	-34 075	-13 359	-13 223	**-47 434**	**-47 298**	86 804	52 493	18 405	14 699
Poland		-10 791	-10 791	-9 092	-6 870	**-19 883**	**-17 662**	32 030	17 158	69 015	47 139
Portugal		-11 848	-11 848	-4 639	-3 578	**-16 487**	**-15 425**	79 034	92 671	28 884	36 367
Spain	-2	-22 289	-22 289	-2 379	-2 249	**-24 668**	**-24 538**	39 570	35 882	9 745	10 001
Sweden		-33 959	-33 959	-16 172	-16 054	**-50 131**	**-50 013**	87 077	32 033	6 612	8 089
Turkey	-1	-9 567	-9 567	-3 830	-3 333	**-13 397**	**-12 900**	18 209	19 194	16 010	17 528
United Kingdom		-24 919	-24 919	-18 289	-7 691	**-43 208**	**-32 610**	110 580	72 890	23 065	36 046
United States		w	w	w	w	**w**	**w**	w	w	w	w
OECD average		*-23 734*	*-23 734*	*-9 215*	*-8 097*	*-32 949*	*-31 830*	*89 303*	*54 936*	*25 149*	*23 579*

		Transfers effect		Unemployment effect		Total benefits		Net present value		Internal rate of return	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Year[1]	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD countries											
Australia	-1	0	0	396	3 366	**104 749**	**72 697**	**84 538**	**52 495**	**12.4**	**12.5**
Austria		0	0	5 176	2 180	**172 815**	**122 341**	**117 246**	**66 762**	**8.7**	**7.1**
Belgium	-1	0	0	6 402	13 646	**196 443**	**160 460**	**167 759**	**132 086**	**15.2**	**17.9**
Canada		0	0	4 182	2 412	**101 372**	**70 514**	**62 141**	**31 195**	**7.8**	**6.5**
Czech Republic		0	0	4 136	6 755	**99 599**	**73 011**	**83 236**	**57 696**	**16.2**	**13.6**
Denmark		4 702	9 014	-2 830	-149	**132 536**	**68 351**	**81 017**	**16 827**	**7.3**	**4.5**
Finland		0	4 733	9 744	6 412	**148 672**	**82 828**	**107 507**	**41 659**	**10.1**	**7.1**
France		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
Germany		0	0	27 168	11 305	**226 362**	**123 289**	**179 199**	**75 730**	**11.8**	**8.4**
Hungary		0	0	7 788	8 644	**183 660**	**135 553**	**161 347**	**114 569**	**21.8**	**18.4**
Italy		0	0	-1 567	1 033	**116 469**	**79 028**	**86 599**	**49 844**	**10.8**	**8.3**
Korea	-3	0	0	504	31	**30 560**	**22 909**	**23 994**	**16 288**	**9.5**	**9.2**
Netherlands		0	0	3 428	5 056	**170 854**	**117 765**	**103 461**	**55 138**	**7.5**	**6.3**
New Zealand		194	3 416	-457	-220	**48 860**	**26 996**	**31 144**	**9 293**	**8.3**	**5.9**
Norway		0	0	-201	2 548	**105 007**	**69 740**	**57 573**	**22 442**	**6.2**	**4.9**
Poland		0	0	14 706	14 534	**115 750**	**78 831**	**95 867**	**61 169**	**15.6**	**13.4**
Portugal		0	0	5 154	3 541	**113 072**	**132 578**	**96 585**	**117 153**	**18.3**	**17.8**
Spain	-2	0	0	2 160	4 106	**51 476**	**49 989**	**26 808**	**25 451**	**6.2**	**6.6**
Sweden		0	64	1 432	2 339	**95 121**	**42 526**	**44 990**	**-7 488**	**5.7**	**2.3**
Turkey	-1	0	0	931	4 291	**35 150**	**41 014**	**21 753**	**28 113**	**9.2**	**9.1**
United Kingdom		0	996	4 881	4 966	**138 526**	**114 899**	**95 318**	**82 289**	**10.4**	**10.1**
United States		w	w	w	w	**w**	**w**	**w**	**w**	**w**	**w**
OECD average		*245*	*911*	*4 657*	*4 840*	*119 353*	*84 266*	*86 404*	*52 436*	*11.0*	*9.5*

Note: Cash flows (components) are discounted at a 3% interest rate.
Assuming that foregone earnings for all individual refer to the minimum wage, except those countries reporting full time earnings, *i.e.* the Czech Republic, Hungary, Poland and Portugal.
1. Latest available year compared to 2006. -1 refers to year 2005, -2 refers to 2004 and -3 refers to 2003.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310225

WHAT ARE THE SOCIAL OUTCOMES OF EDUCATION?

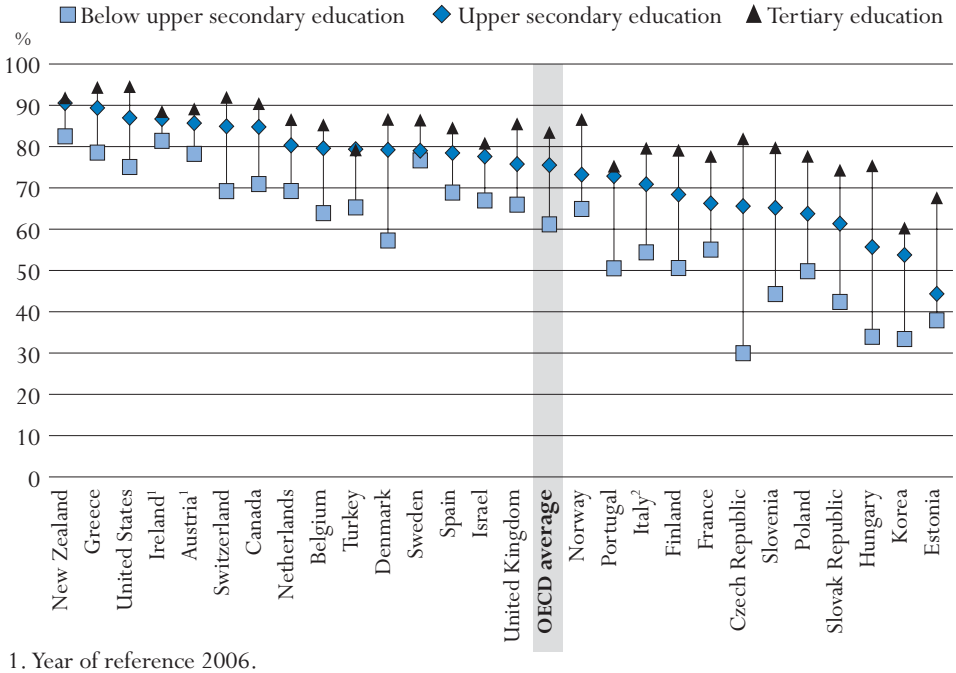
This indicator examines the relationship between educational attainment and social well-being for 24 OECD countries and 3 partner countries. It focuses on three outcomes, self-assessed health, political interest and interpersonal trust, and evaluates how they vary across levels of educational attainment, with and without adjustments made for individual differences in gender, age and income.

Key results

Chart A9.1. Proportion of adults reporting good health, by level of educational attainment (2008)

The chart presents the proportion of adults reporting that their health is good, separately among those who have attained:
a) *below upper secondary,* b) *upper secondary and* c) *tertiary education.*

Given the potentially significant cross-country bias (including cultural bias) in reporting one's health status, this chart should be interpreted with caution. The chart suggests that moving from one level of educational attainment to the next is generally associated with higher levels of self-reported health. The association is larger and more consistent among those moving from below upper secondary to upper secondary education than among those moving from upper secondary to tertiary education.



1. Year of reference 2006.
2. Year of reference 2004.

Countries are ranked in descending order of the proportion of those reporting good health among adults who have attained upper secondary education.

Source: OECD. Table A9.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

StatLink http://dx.doi.org/10.1787/888932310244

Other highlights of this indicator

- Educational attainment is positively associated with self-reported good health, political interest and interpersonal trust. That is, adults with higher levels of educational attainment are generally more likely than those with lower levels of attainment to report that their health is at least good, that they are at least fairly interested in politics, and believe that most people can be trusted. For self-reported health, an increase in educational attainment from below upper secondary to upper secondary levels is associated with a stronger and more consistent increase in outcomes, compared to an increase in educational attainment from upper secondary to tertiary levels in all surveyed countries except for France, Norway, Sweden and the partner country Estonia. With regards to political interest, an increase in educational attainment from upper secondary to tertiary levels is associated with a stronger and more consistent increase in outcomes, compared to an increase in educational attainment from below upper secondary to upper secondary levels. Such a consistent pattern is not apparent for interpersonal trust.

- The association between educational attainment and social outcomes generally remains after making adjustments for gender and age. Thus, the differences in outcomes across educational attainment groups do not appear to be primarily driven by differences in the gender or age of those with different levels of educational attainment. For example, younger individuals are more likely to be more highly educated. While the finding that more highly educated individuals report good health could reflect on their relative youth, results adjusting for age suggest a persistent relationship between educational attainment and health.

- The size of the association between educational attainment and social outcomes is generally reduced after household income is controlled for, which indicates that income is one factor explaining this relationship. However, in most countries, the association between education and social outcomes remains strong after adjusting for household income. Hence, what individuals potentially acquire through education – *e.g.* cognitive and socio-emotional skills – may play an important role in raising social outcomes, independent of the effect of education on income.

A9

Policy context

Improving health is a key policy objective for all OECD countries. This is reflected in high levels of public expenditure on health, which in 2007 amounted to 6.4% of GDP in OECD countries (OECD, 2009a). This amount is much higher than the public expenditure on education of 4.8% (see Table B2.4 in Indicator B2). Although the significant resources spent on healthcare have generally helped people live longer, the nature of health problems has changed, with recent increases in chronic debilitating conditions such as heart disease, diabetes and depression. Efforts to combat these trends depend in part on altering individuals' lifestyle choices – choices which may be improved by the cognitive and socio-emotional skills developed through education.

Social cohesion, often reflected in levels of civic and social engagement, is also of high concern in OECD countries. Countries generally perceive that levels of civic participation, political interest and trust are inadequate thus posing a challenge for the maintenance of well-functioning democratic institutions and political processes. Education may play an important role in ensuring social cohesion by fostering the cognitive skills, self-efficacy and resilience that underlie social and political interaction.

Given the increasing number of evidence suggesting the significant role of education in raising these outcomes, it would be of interest for policy-makers working on education, health and social welfare to jointly take into account the social outcomes of education.

Evidence and explanations

Educational attainment and social outcomes

Education may affect people's lives in ways that go beyond what can be measured by economic outcomes such as labour market earnings (see Indicator A7). These potential effects include a variety of social outcomes such as health, civic participation, political interest and happiness, as well as crime. This year's edition of *Education at a Glance* focuses on three social outcomes for which comparable micro-data are available across a large number of countries: self-reported health, political interest and interpersonal trust. Each of the datasets includes measures of educational attainment so that these outcomes can be compared by levels of attainment.

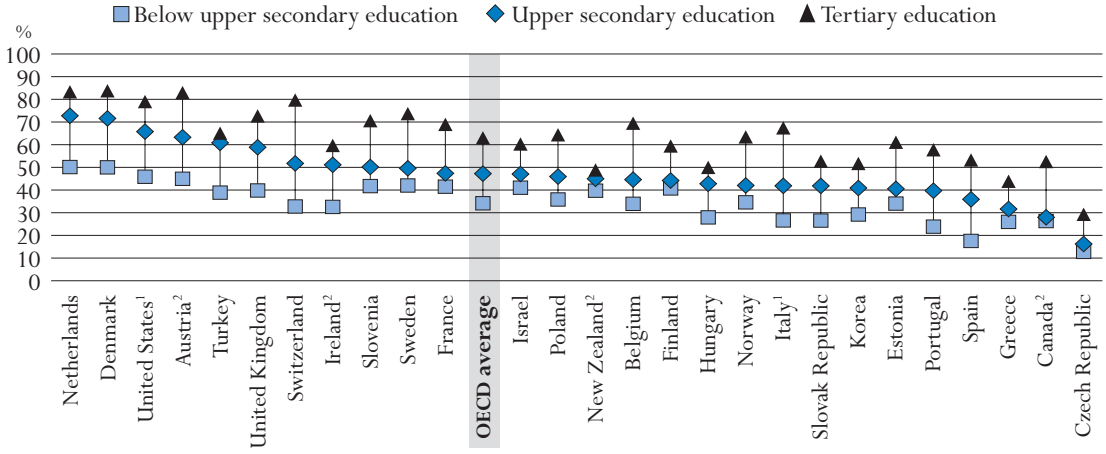
Education can have an impact on individuals' *health* by helping them choose healthier lifestyles, better manage illness and avoid conditions detrimental to health, such as dangerous jobs and stress due to poverty. The effect of education may operate directly by raising individual competencies, attitudes to risk and self-efficacy, or indirectly through income, which helps improve living conditions (*e.g.* better nutrition) and access to healthcare.

Education can directly increase *civic and political engagement* by providing relevant information and experience, and developing competencies, values, attitudes and beliefs that encourage civic participation. It can indirectly increase engagement by raising individuals' social status and thus potentially offering better access to social and political power.

Education can directly affect *interpersonal trust* by helping individuals better understand and embrace the values of social cohesion and diversity. It can also indirectly raise interpersonal trust since those with higher levels of education are more likely to live and work with those with similarly high levels of education, and in environments in which crime and anti-social behaviour tend to be less frequent; the opposite is likely to be true for those with low levels of education.

The empirical literature documents positive associations between education and both health and civic and social engagement (*e.g.* OECD, 2007; OECD, 2010). Charts A9.1, A9.2 and A9.3 suggest that the relationship between education and self-reported health, political interest and interpersonal trust is indeed generally positive for many countries.

Chart A9.2. Proportion of adults expressing interest in politics, by level of educational attainment (2008)



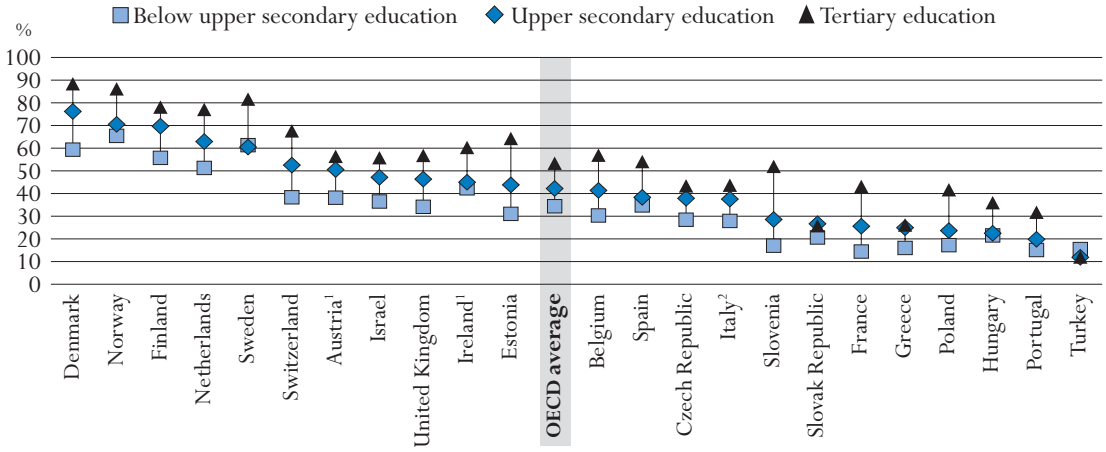
1. Year of reference 2004.
2. Year of reference 2006.

Countries are ranked in descending order of the proportion of adults expressing an interest in politics among those who have attained upper secondary education.

Source: OECD. Table A9.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310244

Chart A9.3. Proportion of adults expressing interpersonal trust, by level of educational attainment (2008)



1. Year of reference 2006.
2. Year of reference 2004.

Countries are ranked in descending order of the proportion of adults expressing interpersonal trust among those who have attained upper secondary education.

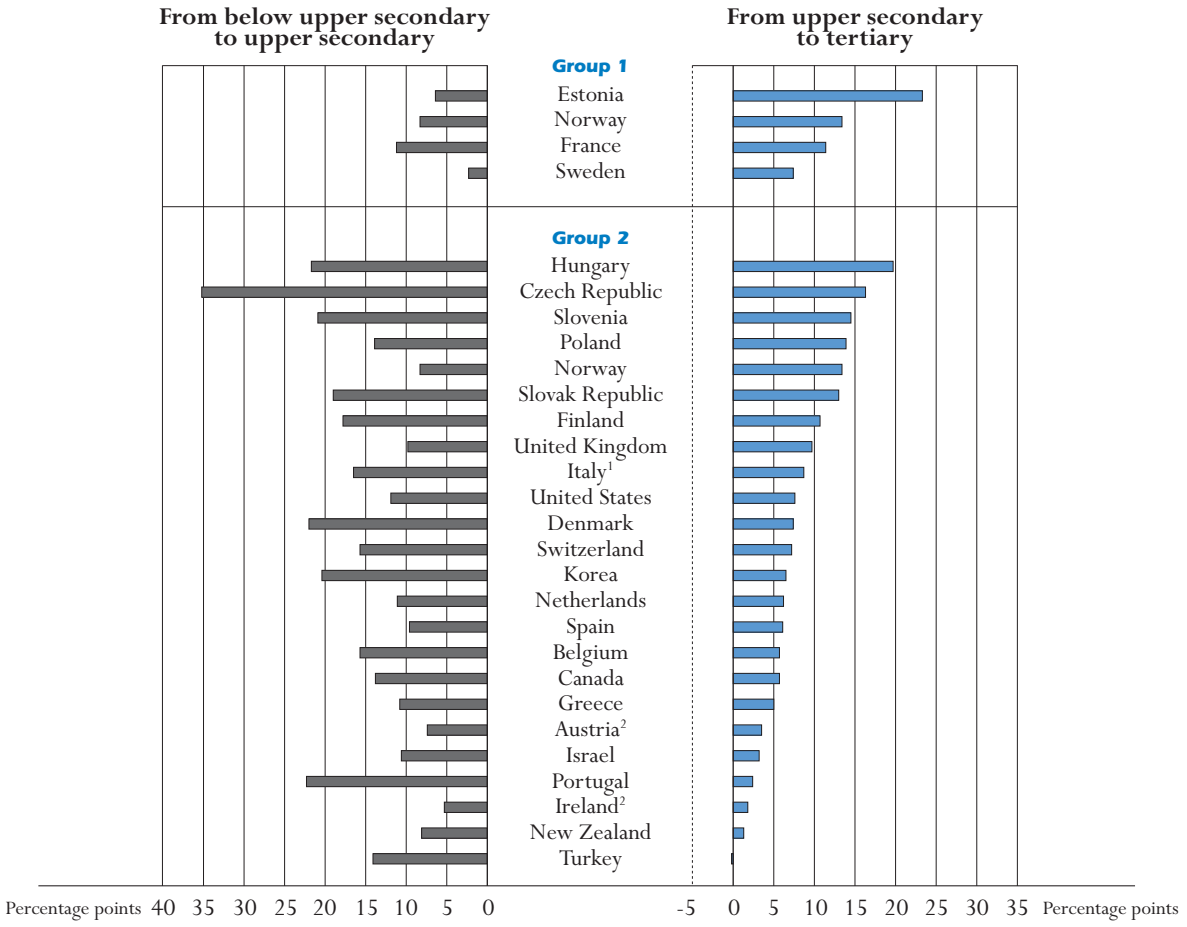
Source: OECD. Table A9.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310244

A9

One may wonder if the positive relationship between education and self-reported good health is largely driven by age. This could happen if, for example, the younger cohorts report better health conditions and are also better educated than the older cohorts (see Table A1.3a). Similarly, the positive relationship between education and interpersonal trust could be driven by gender differences, which could be the case if females tend to trust others more and are also more educated than males (as is the case of Canada and Norway, for example; see Tables A1.3b and A1.3c available on line). To take into account these gender and age differences, Tables A9.4, A9.5 and A9.6 provide regression-based estimates adjusted for gender and age. They suggest that the relationship between educational attainment and social outcomes generally remains strong even after accounting for gender and age.

Chart A9.4. Incremental differences in self-reported good health associated with an increase in the level of educational attainment (2008)



1. Year of reference 2004.
2. Year of reference 2006.

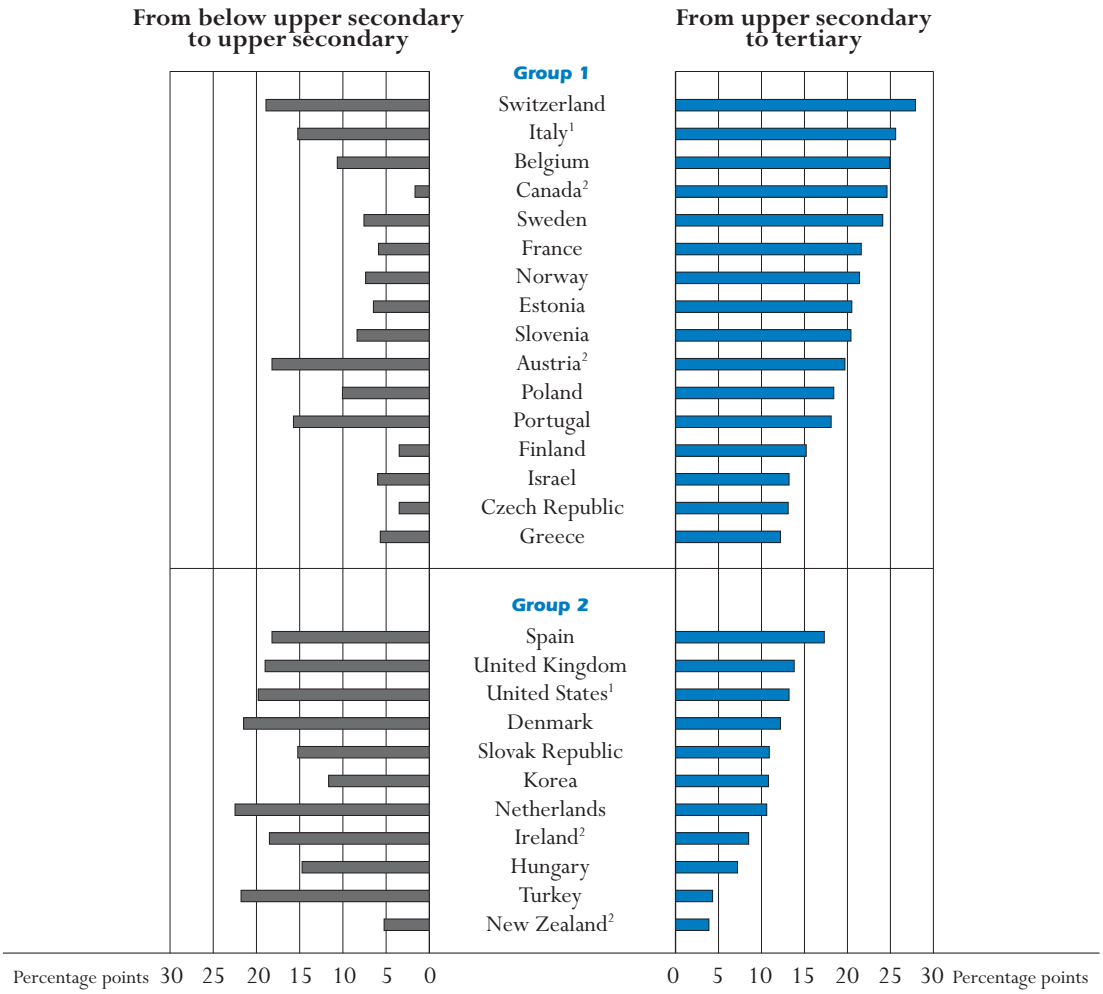
Countries are grouped by those in which the incremental differences in self-reported good health are higher at a higher level of education (Group 1) and others (Group 2). Countries are ranked in descending order of the incremental differences in self-reported good health associated with a shift from upper secondary to tertiary education attainment.

Source: OECD. Table A9.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310244

Is income a driving factor in the relationship between educational attainment and social outcomes? Tables A9.4, A9.5 and A9.6 suggest that the association generally diminishes after controlling for household income: this suggests that there could be an indirect effect of education via income. On the other hand, the same tables also suggest that the relationship between educational attainment and social outcomes generally remains even when comparing adults at the same income level: this is consistent with the direct effects of education (*i.e.* cognitive and socio-emotional skills) on social outcomes.

Chart A9.5. Incremental differences in political interest associated with an increase in the level of educational attainment (2008)



1. Year of reference 2004.
2. Year of reference 2006.

Countries are grouped by those in which the incremental differences in political interest are higher at a higher level of education (Group 1) and others (Group 2). Countries are ranked in descending order of the incremental differences in political interest associated with a shift from upper secondary to tertiary education attainment.

Source: OECD. Table A9.5. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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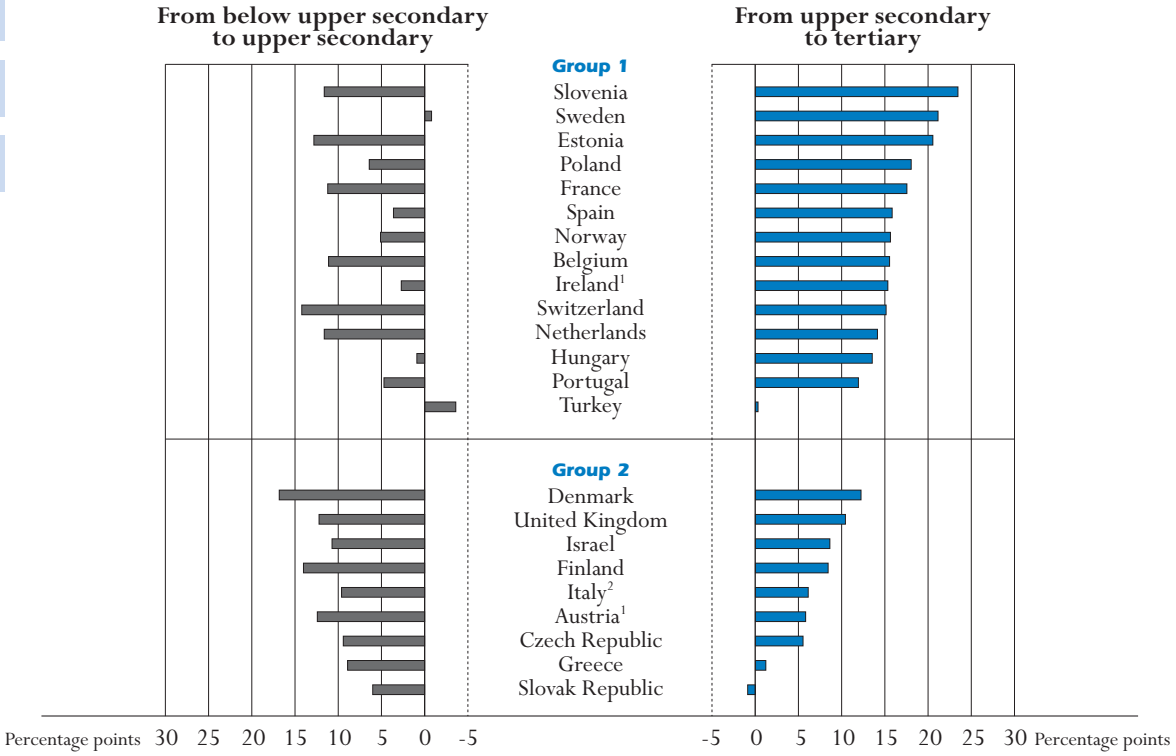
Chart A9.6. Incremental differences in interpersonal trust associated with an increase in the level of educational attainment (2008)



1. Year of reference 2006.
2. Year of reference 2004.

Countries are grouped by those in which the incremental differences in interpersonal trust are higher at a higher level of education (Group 1) and others (Group 2). Countries are ranked in descending order of the incremental differences in interpersonal trust associated with a shift from upper secondary to tertiary education attainment.

Source: OECD. Table A9.6. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310244

Incremental differences in social outcomes associated with more education

Policy makers, school administrators and teachers are interested in understanding the features of education (*e.g.* curriculum content, teaching styles and school environment) that affect health and civic and social engagement. Although addressing this would go well beyond the scope of what the indicators can show, Charts A9.1-A9.6 present information about the levels of education that are more strongly related to social outcomes. This information can help shed light on the learning experiences and/or skills that are most relevant to understand.

For self-reported good health, Charts A9.1 and A9.4 suggest that the incremental differences are generally larger and more consistent at the lower levels of education (*i.e.* between below upper secondary and upper secondary education) than at the higher levels (*i.e.* between upper secondary and tertiary education). In the Czech Republic, for instance, the probability that those with upper secondary education reported good health was 36 percentage points higher than those with below upper secondary education; however, this probability was only 16 percentage points higher for those with tertiary education compared to those with upper secondary education.

This suggests that learning experiences at the upper secondary education level may be particularly important for raising health outcomes; this holds true even after controlling for gender and age (Table A9.4).

For political interest, Charts A9.2 and A9.5 suggest that the incremental differences are generally larger and more consistent at the higher levels of education than at the lower levels of education. In Canada, for instance, the probability that those with tertiary education expressed interest in politics was 25 percentage points higher than those with upper secondary education; however, this probability was only 2 percentage points higher for those with upper secondary education compared to those with below upper secondary education. This suggests that learning experiences at the tertiary level may be particularly important for stimulating political interest; again, this holds true even after controlling for gender and age (Table A9.5).

For interpersonal trust, Charts A9.3 and A9.6 suggest that the incremental differences at the higher levels of education are generally comparable to those at the lower levels of education.

To the extent that income is associated with an individual's choice of residential areas and occupation, the incremental differences adjusting for income may reflect the direct effects of education on social outcomes. Tables A9.4, A9.5 and A9.6 show that controlling for income changes the incremental differences very little, suggesting that what children learn through education may have a direct effect on these social outcomes.

Definitions and methodologies

This indicator is based on developmental work jointly conducted by the INES Network on Labour Market, Economic and Social Outcomes of Learning (LSO) and the OECD Centre for Educational Research and Innovation (CERI). The methodologies adopted are based on work conducted by CERI's Social Outcomes of Learning project (OECD, 2007; OECD, forthcoming). See Annex 3 at *www.oecd.org/edu/eag2010* for details on the calculation of the incremental differences. This indicator was called "marginal effects" in *Education at a Glance 2009,* but has been renamed "incremental differences".

Indicators are calculated using micro-data from the European Social Survey (ESS) 2004, 2006 and 2008, International Social Survey Programme (ISSP) 2006, General Social Survey 2008 for Canada and New Zealand, KEDI Social Capital Survey for Korea 2008 and the National Health Interview Survey (NHIS) 2008 for the United States. The selection of surveys reflects the following factors:

- *Country coverage:* An important objective was to select surveys that made it possible to present a large number of OECD countries.
- *Comparability of social outcomes variables*: Surveys were selected on the basis of the comparability of variables on self-reported health, political interest and interpersonal trust.
- *Comparability of educational attainment variables*: The general principle was to use micro-data for which the distribution of educational attainment was within 10 percentage points of figures published for comparable years in *Education at a Glance*. A number of exceptions, however, were made with the recommendation of the country representatives of INES Working Party and/or INES LSO Network [*i.e.* Austria (ESS), Canada (ISSP), Denmark (ESS), Greece (ESS), Israel (ESS), New Zealand (ISSP), Poland (ESS), Slovenia (ESS), Sweden (ESS) and the United Kingdom (ESS)].
- *Age restriction*: Surveys that cover adults aged 25 to 64 were used.
- *Sample size:* Surveys with a minimum of approximately 1000 observations were used.

Self-reported health is captured by the percentage of adults who rate their health as at least good. ESS (2004, 2006 and 2008), KEDI's Social Capital Survey (2008), GSS for Canada and New Zealand (2008) and NHIS for the United States (2008) provide this information based on the following survey questions (bold text indicates responses counted in the outcome percentage):

ESS (2004, 2006, 2008), KEDI Social Capital Survey – Korea (2008)	How is your health in general? Would you say it is **very good, good**, fair, bad, very bad?
GSS – Canada (2008)	In general, would you say your health is **excellent, very good**, fair, poor?
GSS – New Zealand (2008)	In general, would you say your health is **excellent, very good, good**, fair or poor?
NHIS – United States (2008)	Would you say [subject name's] health in general was **excellent, very good, good**, fair, or poor?"

Political interest is captured by the percentage of adults who say they are at least fairly interested in politics. ESS (2004, 2006, 2008), KEDI's Social Capital Survey (2008) and ISSP (2006) provide this information based on the following survey questions (bold text indicates responses counted in the outcome percentage):

ESS (2004, 2006, 2008), KEDI Social Capital Survey – Korea (2008)	How interested are you in politics? **Very interested, quite interested**, hardly interested, not at all interested.
ISSP (2004, 2006)	How interested would you say you personally are in politics? **Very interested, fairly interested**, somewhat interested, not very interested, not at all interested.

Interpersonal trust is captured by percentages of adults who believe that most people can be trusted. ESS (2004, 2006, 2008) provide this information based on the following survey question (bold text indicates responses counted in the outcome percentages):

ESS (2004, 2006, 2008)	Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? (0-10 scale, with 0 = You can't be too careful and 10 = Most people can be trusted). Responses **6-10** coded as interpersonal trust.

The educational attainment variable in each data source was converted to an ISCED 3 level educational attainment variable (below upper secondary education, upper secondary education, and tertiary education). Those in the "upper secondary education" category include those who have attained post-secondary and non-tertiary education (ISCED 4).

Further references

OECD (2007), *Understanding the Social Outcomes of Learning,* OECD Publishing.

OECD (2009a), *Health at a Glance: OECD Indicators,* OECD Publishing.

OECD (forthcoming), *Improving Health and Social Cohesion through Education,* OECD Publishing.

Table A9.1.

Proportion of adults reporting good health, by level of education

		Below upper secondary education	Upper secondary education	Tertiary education	Data source
OECD countries	Austria	0.78	0.86	0.89	ESS 2006
	Belgium	0.64	0.80	0.85	ESS 2008
	Canada	0.71	0.85	0.90	GSS 2008
	Czech Republic	0.30	0.66	0.82	ESS 2008
	Denmark	0.57	0.79	0.87	ESS 2008
	Finland	0.51	0.68	0.79	ESS 2008
	France	0.55	0.66	0.78	ESS 2008
	Greece	0.79	0.89	0.94	ESS 2008
	Hungary	0.34	0.56	0.75	ESS 2008
	Ireland	0.81	0.87	0.88	ESS 2006
	Italy	0.54	0.71	0.80	ESS 2004
	Korea	0.33	0.54	0.60	KEDI 2008
	Netherlands	0.69	0.80	0.87	ESS 2008
	New Zealand	0.82	0.91	0.92	GSS 2008
	Norway	0.65	0.73	0.87	ESS 2008
	Poland	0.50	0.64	0.78	ESS 2008
	Portugal	0.51	0.73	0.75	ESS 2008
	Slovak Republic	0.42	0.61	0.74	ESS 2008
	Spain	0.69	0.78	0.85	ESS 2008
	Sweden	0.77	0.79	0.86	ESS 2008
	Switzerland	0.69	0.85	0.92	ESS 2008
	Turkey	0.65	0.79	0.79	ESS 2008
	United Kingdom	0.66	0.76	0.86	ESS 2008
	United States	0.75	0.87	0.95	NHIS 2008
	OECD average	*0.61*	*0.76*	*0.83*	
	EU average	*0.57*	*0.72*	*0.82*	
Partner countries	Estonia	0.38	0.44	0.68	ESS 2008
	Israel	0.67	0.78	0.81	ESS 2008
	Slovenia	0.44	0.65	0.80	ESS 2008

Notes: Figures presented in the column "Below upper secondary education" describe the proportion of adults who have attained below upper secondary education reporting good health. Likewise, figures presented in the column "Upper secondary education" and "Tertiary education" describe the proportion of adults who have attained upper secondary and tertiary education reporting good health.

Source: European Social Survey (ESS) 2004, 2006 and 2008; General Social Survey (GSS) for Canada and New Zealand; KEDI's Korean Social Capital Survey 2008; National Health Interview Survey (NHIS) for the United States. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table A9.2.
Proportion of adults expressing interest in politics, by level of education

		Below upper secondary education	Upper secondary education	Tertiary education	Data source
OECD countries	Austria	0.45	0.63	0.83	ESS 2006
	Belgium	0.34	0.45	0.69	ESS 2008
	Canada	0.26	0.28	0.53	ISSP 2006
	Czech Republic	0.13	0.16	0.29	ESS 2008
	Denmark	0.50	0.72	0.84	ESS 2008
	Finland	0.41	0.44	0.59	ESS 2008
	France	0.41	0.47	0.69	ESS 2008
	Greece	0.26	0.32	0.44	ESS 2008
	Hungary	0.28	0.43	0.50	ESS 2008
	Ireland	0.33	0.51	0.60	ESS 2006
	Italy	0.27	0.42	0.67	ESS 2004
	Korea	0.29	0.41	0.52	KEDI 2008
	Netherlands	0.50	0.73	0.83	ESS 2008
	New Zealand	0.40	0.45	0.49	ISSP 2006
	Norway	0.35	0.42	0.63	ESS 2008
	Poland	0.36	0.46	0.64	ESS 2008
	Portugal	0.24	0.40	0.58	ESS 2008
	Slovak Republic	0.27	0.42	0.53	ESS 2008
	Spain	0.18	0.36	0.53	ESS 2008
	Sweden	0.42	0.50	0.74	ESS 2008
	Switzerland	0.33	0.52	0.80	ESS 2008
	Turkey	0.39	0.61	0.65	ESS 2008
	United Kingdom	0.40	0.59	0.73	ESS 2008
	United States	0.46	0.66	0.79	ISSP 2004
	OECD average	*0.34*	*0.47*	*0.63*	
	EU average	*0.34*	*0.47*	*0.63*	
Partner countries	Estonia	0.34	0.41	0.61	ESS 2008
	Israel	0.41	0.47	0.60	ESS 2008
	Slovenia	0.42	0.50	0.71	ESS 2008

Notes: Figures presented in the column "Below upper secondary education" describe the proportion of adults who have attained below upper secondary education expressing an interest in politics. Likewise, figures presented in the column "Upper secondary education" and "Tertiary education" describe the proportion of adults who have attained upper secondary and tertiary education expressing an interest in politics.
Source: European Social Survey (ESS) 2004, 2006 and 2008; International Social Survey Programme (ISSP) 2004 and 2006; KEDI's Korean Social Capital Survey 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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Table A9.3.

Proportion of adults expressing interpersonal trust, by level of education

		Below upper secondary education	Upper secondary education	Tertiary education	Data source
OECD countries	**Austria**	0.38	0.51	0.56	ESS 2006
	Belgium	0.30	0.41	0.57	ESS 2008
	Czech Republic	0.28	0.38	0.43	ESS 2008
	Denmark	0.59	0.76	0.88	ESS 2008
	Finland	0.56	0.70	0.78	ESS 2008
	France	0.14	0.26	0.43	ESS 2008
	Greece	0.16	0.25	0.26	ESS 2008
	Hungary	0.22	0.22	0.36	ESS 2008
	Ireland	0.42	0.45	0.60	ESS 2006
	Italy	0.28	0.38	0.44	ESS 2004
	Netherlands	0.51	0.63	0.77	ESS 2008
	Norway	0.65	0.71	0.86	ESS 2008
	Poland	0.17	0.24	0.42	ESS 2008
	Portugal	0.15	0.20	0.32	ESS 2008
	Slovak Republic	0.21	0.27	0.26	ESS 2008
	Spain	0.35	0.38	0.54	ESS 2008
	Sweden	0.61	0.60	0.82	ESS 2008
	Switzerland	0.38	0.53	0.68	ESS 2008
	Turkey	0.16	0.12	0.12	ESS 2008
	United Kingdom	0.34	0.46	0.57	ESS 2008
	OECD average	***0.34***	***0.42***	***0.53***	
	EU average	***0.32***	***0.41***	***0.54***	
Partner countries	**Estonia**	0.31	0.44	0.64	ESS 2008
	Israel	0.36	0.47	0.56	ESS 2008
	Slovenia	0.17	0.29	0.52	ESS 2008

Notes: Figures presented in the column "Below upper secondary education" describe the proportion of adults who have attained below upper secondary education expressing interpersonal trust. Likewise, figures presented in the column "Upper secondary education" and "Tertiary education" describe the proportion of adults who have attained upper secondary and tertiary education expressing interpersonal trust.
Source: European Social Survey (ESS) 2004, 2006 and 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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Table A9.4.

Incremental differences in self-reported good health associated with an increase in the level of educational attainment (with and without adjustments for age, gender and income)

		Difference in outcome from below upper secondary to upper secondary			Difference in outcome from upper secondary to tertiary			
		No adjustments	Adjustments age, gender	Adjustments age, gender, income	No adjustments	Adjustments age, gender	Adjustments age, gender, income	Data source
OECD countries	Austria	0.07	0.06	0.05	0.04	0.04	0.04	ESS 2006
	Belgium	0.16	0.12	0.09	0.06	0.06	0.05	ESS 2008
	Canada	0.14	0.13	0.11	0.06	0.05	0.03	GSS 2008
	Czech Republic	0.36	0.27	0.24	0.16	0.17	0.16	ESS 2008
	Denmark	0.22	0.20	0.17	0.07	0.06	0.04	ESS 2008
	Finland	0.18	0.07	0.07	0.11	0.09	0.06	ESS 2008
	France	0.11	0.09	0.06	0.11	0.09	0.06	ESS 2008
	Greece	0.11	0.06	0.04	0.05	0.04	0.02	ESS 2008
	Hungary	0.22	0.17	0.13	0.20	0.15	0.10	ESS 2008
	Ireland	0.05	0.04	0.02	0.02	0.02	0.01	ESS 2006
	Italy	0.17	0.11	0.08	0.09	0.06	0.07	ESS 2004
	Korea	0.20	0.14	0.14	0.07	0.04	0.03	KEDI 2008
	Netherlands	0.11	0.09	0.06	0.06	0.06	0.05	ESS 2008
	New Zealand	0.08	0.07	0.06	0.01	0.02	0.01	GSS 2008
	Norway	0.08	0.10	0.07	0.13	0.11	0.09	ESS 2008
	Poland	0.14	0.12	0.09	0.14	0.08	0.06	ESS 2008
	Portugal	0.22	0.11	0.10	0.02	0.04	0.02	ESS 2008
	Slovak Republic	0.19	0.10	0.10	0.13	0.09	0.09	ESS 2008
	Spain	0.10	0.03	0.03	0.06	0.07	0.08	ESS 2008
	Sweden	0.02	-0.03	-0.03	0.07	0.08	0.05	ESS 2008
	Switzerland	0.16	0.15	0.13	0.07	0.07	0.05	ESS 2008
	Turkey	0.14	0.08	0.05	0.00	-0.03	-0.07	ESS 2008
	United Kingdom	0.10	0.09	0.05	0.10	0.09	0.07	ESS 2008
	United States	0.12	0.12	0.08	0.08	0.07	0.04	NHIS 2008
	OECD average	*0.14*	*0.10*	*0.08*	*0.08*	*0.07*	*0.05*	
	EU average	*0.15*	*0.10*	*0.08*	*0.10*	*0.09*	*0.07*	
Partner countries	Estonia	0.06	0.06	0.03	0.23	0.21	0.16	ESS 2008
	Israel	0.11	0.07	0.04	0.03	0.03	0.01	ESS 2008
	Slovenia	0.21	0.16	0.14	0.15	0.13	0.11	ESS 2008

Notes: Cells highlighted in grey are statistically significant and different from zero at the 5% level. Calculations are based on linear regressions. Non-linear models (Probit models) produce similar results.

Source: European Social Survey (ESS) 2004, 2006 and 2008; General Social Survey (GSS) for Canada and New Zealand; KEDI's Korean Social Capital Survey 2008; National Health Interview Survey (NHIS) for the United States. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table A9.5.

Incremental differences in political interest associated with an increase in the level of educational attainment (with and without adjustments for age, gender and income)

		Difference in outcome from below upper secondary to upper secondary			Difference in outcome from upper secondary to tertiary			
		No adjustments	Adjustments age, gender	Adjustments age, gender, income	No adjustments	Adjustments age, gender	Adjustments age, gender, income	Data source
OECD countries	**Austria**	0.18	0.21	0.21	0.20	0.17	0.17	ESS 2006
	Belgium	0.11	0.15	0.13	0.25	0.28	0.24	ESS 2008
	Canada	0.02	0.05	0.05	0.25	0.25	0.26	ISSP 2006
	Czech Republic	0.04	0.04	0.03	0.13	0.13	0.12	ESS 2008
	Denmark	0.22	0.21	0.20	0.12	0.15	0.14	ESS 2008
	Finland	0.04	0.09	0.09	0.15	0.17	0.15	ESS 2008
	France	0.06	0.08	0.06	0.22	0.25	0.23	ESS 2008
	Greece	0.06	0.12	0.11	0.12	0.13	0.12	ESS 2008
	Hungary	0.15	0.14	0.14	0.07	0.10	0.10	ESS 2008
	Ireland	0.19	0.25	0.24	0.09	0.10	0.10	ESS 2006
	Italy	0.15	0.17	0.17	0.26	0.25	0.24	ESS 2004
	Korea	0.12	0.13	0.12	0.11	0.11	0.11	KEDI 2008
	Netherlands	0.23	0.24	0.19	0.11	0.10	0.06	ESS 2008
	New Zealand	0.05	0.07	0.05	0.04	0.08	0.07	ISSP 2006
	Norway	0.07	0.05	0.06	0.21	0.27	0.26	ESS 2008
	Poland	0.10	0.16	0.14	0.18	0.21	0.19	ESS 2008
	Portugal	0.16	0.17	0.17	0.18	0.20	0.20	ESS 2008
	Slovak Republic	0.15	0.16	0.16	0.11	0.14	0.14	ESS 2008
	Spain	0.18	0.22	0.22	0.17	0.17	0.16	ESS 2008
	Sweden	0.08	0.15	0.16	0.24	0.27	0.26	ESS 2008
	Switzerland	0.19	0.20	0.18	0.28	0.26	0.23	ESS 2008
	Turkey	0.22	0.18	0.15	0.04	0.02	-0.01	ESS 2008
	United Kingdom	0.19	0.19	0.18	0.14	0.16	0.14	ESS 2008
	United States	0.20	0.23	0.21	0.13	0.13	0.11	ISSP 2004
	OECD average	***0.13***	***0.15***	***0.14***	***0.16***	***0.17***	***0.16***	
	EU average	***0.13***	***0.16***	***0.14***	***0.17***	***0.18***	***0.16***	
Partner countries	**Estonia**	0.07	0.08	0.06	0.21	0.22	0.20	ESS 2008
	Israel	0.06	0.10	0.07	0.13	0.13	0.12	ESS 2008
	Slovenia	0.08	0.13	0.09	0.20	0.21	0.17	ESS 2008

Notes: Cells highlighted in grey are statistically significant and different from zero at the 5% level. Calculations are based on linear regressions. Non-linear models (Probit models) produce similar results.

Source: European Social Survey (ESS) 2004, 2006 and 2008; International Social Survey Programme (ISSP) 2004 and 2006 and KEDI's Korean Social Capital Survey 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table A9.6.

Incremental differences in interpersonal trust associated with an increase in the level of educational attainment (with and without adjustments for age, gender and income)

		Difference in outcome from below upper secondary to upper secondary			Difference in outcome from upper secondary to tertiary			
		No adjustments	Adjustments age, gender	Adjustments age, gender, income	No adjustments	Adjustments age, gender	Adjustments age, gender, income	Data source
OECD countries	**Austria**	0.12	0.12	0.11	0.06	0.06	0.05	ESS 2006
	Belgium	0.11	0.12	0.11	0.16	0.17	0.15	ESS 2008
	Czech Republic	0.09	0.09	0.08	0.06	0.06	0.06	ESS 2008
	Denmark	0.17	0.17	0.16	0.12	0.12	0.12	ESS 2008
	Finland	0.14	0.13	0.13	0.08	0.08	0.05	ESS 2008
	France	0.11	0.12	0.11	0.18	0.19	0.16	ESS 2008
	Greece	0.09	0.09	0.09	0.01	0.01	0.01	ESS 2008
	Hungary	0.01	0.01	-0.01	0.14	0.12	0.13	ESS 2008
	Ireland	0.03	0.06	0.05	0.15	0.17	0.17	ESS 2006
	Italy	0.10	0.09	0.07	0.06	0.06	0.06	ESS 2004
	Netherlands	0.12	0.12	0.10	0.14	0.14	0.14	ESS 2008
	Norway	0.05	0.05	0.03	0.16	0.16	0.13	ESS 2008
	Poland	0.06	0.07	0.05	0.18	0.18	0.16	ESS 2008
	Portugal	0.05	0.06	0.06	0.12	0.12	0.12	ESS 2008
	Slovak Republic	0.06	0.08	0.08	-0.01	-0.01	-0.01	ESS 2008
	Spain	0.04	0.04	0.04	0.16	0.16	0.15	ESS 2008
	Sweden	-0.01	-0.01	-0.01	0.21	0.22	0.22	ESS 2008
	Switzerland	0.14	0.15	0.14	0.15	0.16	0.13	ESS 2008
	Turkey	-0.04	-0.03	-0.02	0.00	0.01	0.03	ESS 2008
	United Kingdom	0.12	0.13	0.10	0.10	0.11	0.10	ESS 2008
	OECD average	***0.08***	***0.08***	***0.07***	***0.11***	***0.11***	***0.11***	
	EU average	***0.09***	***0.09***	***0.08***	***0.12***	***0.13***	***0.12***	
Partner countries	**Estonia**	0.13	0.13	0.11	0.21	0.21	0.20	ESS 2008
	Israel	0.11	0.11	0.09	0.09	0.09	0.07	ESS 2008
	Slovenia	0.12	0.13	0.12	0.23	0.23	0.23	ESS 2008

Notes: Cells highlighted in grey are statistically significant and different from zero at the 5% level. Calculations are based on linear regressions. Non-linear models (Probit models) produce similar results.

Source: European Social Survey (ESS) 2004, 2006 and 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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WHAT ARE THE ECONOMIC LINKS WITH EDUCATION?

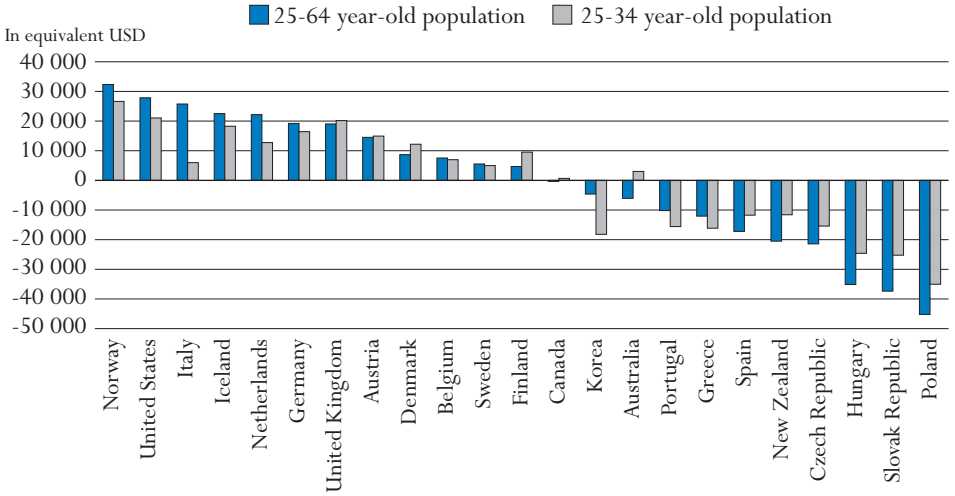
Education has a large influence on how economies evolve. The skills of their workforce are a major sustainable advantage countries can leverage in the long term. Education thus plays a key role in shaping current and future economic growth. This indicator takes a closer look at links between education and economic outcomes. As a first step, labour costs by skill (educational) levels in OECD countries are examined.

Key results

Chart A10.1. Deviation from the OECD mean annual labour costs of tertiary-educated individuals, by age groups

USD 64 000 for the 25-64 year-old population and USD 50 000 for the 25-34 year-old population

Labour costs for individuals with tertiary education (ISCED 5/6) vary substantially among countries. In Iceland, Italy, the Netherlands, Norway and the United States, over the course of a year, employers pay USD 20 000 or more than the OECD average to employ higher educated individuals. However, these individuals are relatively inexpensive in the Czech Republic, Hungary, New Zealand, Poland and the Slovak Republic, where annual costs are at least USD 20 000 less than the OECD average. These differences reflect, in part, productivity differentials and prevailing wage rates among countries, but they also illustrate investment opportunities for employers at the high end of the skills distribution. Differences in labour costs for younger individuals with higher education (25-34 year-olds) are generally less pronounced than for the total workforce (25-64 year-olds). In Italy and Korea, new graduates are substantially less costly to employ than an average tertiary worker.



Note: Australia refers to 2005. Austria, Belgium, Denmark, Greece, Iceland, Italy, the Netherlands, Poland, Portugal and Sweden refer to 2006. Canada, Finland, Korea, Spain refer to 2007. All other countries refer to 2008.

Countries are ranked in descending order of the deviation from OECD mean in annual labour costs of tertiary educated 25-64 year-old individuals.

Source: OECD, INES LSO Network Economic Working Group special data collection. Tables A10.1 and A10.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- On average across the OECD area, annual labour costs for those with below upper secondary education are USD 40 000 for males and USD 29 000 for females (25-64 year-old population). These costs increases at upper secondary level (ISCED 3/4) to USD 48 000 for males and USD 36 000 for females. The large rise in labour costs, however, is for high-end skills. On average employers pay USD 74 000 for a tertiary-educated male and USD 53 000 for a female with the same level of education.

- The relative cost advantage varies with educational levels. A few countries with overall higher cost levels show decreasing labour costs with higher educational levels. Compared to other OECD countries, individuals with higher education are less expensive to employ than those with lower levels of education in Belgium, Denmark, Finland and Sweden.

- Annual labour costs for high-end skills vary substantially and range from less than USD 20 000 for a recent male tertiary graduate (25-34 year-olds) in Poland to over USD 140 000 for an experienced (45-54 year-olds) male worker with tertiary education in Italy. On average across the OECD, an employer can expect to pay for an experienced male tertiary graduate a further USD 27 000 per year, an indication of the value that labour market experience brings to the productivity and versatility of more highly educated individuals.

- There is a link between the cost of tertiary graduates and the net flow of foreign direct investment (FDI). Countries with relatively inexpensive labour costs for individuals with higher education attract more investment. The Czech Republic, Hungary, New Zealand, Poland and the Slovak Republic have succeeded in capitalising on this cost advantage and registered a net FDI flow of more than 2% of GDP between 2003 and 2008.

- On average across OECD countries, employers pay 2.0 times more (ratio) for tertiary graduates than for those without upper secondary education (45-54 year-olds). The skill premium for experienced workers is particularly high in countries with low attainment levels. In the Czech Republic, Hungary, Italy, Poland and Portugal tertiary attainment levels are below 20% and the cost of tertiary graduates is more than 2.5 times that of individuals with below upper secondary education.

A10

Policy context

It is a difficult matter to link education to economic issues and overall growth, notably because education and educational attainment levels evolve slowly while economic indicators change monthly and can exhibit substantial year-to-year variation. The interaction between education and growth is similarly important as it can reinforce supply and demand for skills. Policy makers often have to rely on their intuition about the economic consequences of their decisions regarding education and how they will affect growth and the overall economy.

Some conclusions may be drawn from what can be observed on an individual (micro) level. *Education at a Glance* provides a substantial amount of information at this level: labour force participation, unemployment rates, earnings differentials and investment opportunities in education. In almost all cases these indicators point to substantial economic benefits from education, particularly tertiary education. This indicator builds on these findings to provide a complementary picture and to link these results to overall economic issues.

Workforce skills and the price of these competencies are the basis for competing in the global arena. OECD countries face increasing competition in the lower and more recently in the mid-range skills segments. But even in these segments many countries retain a competitive advantage through technological advances, innovation and capital investments that enhance productivity levels.

As services and production systems become increasingly complex, higher education is often a prerequisite for entering new areas and implementing new technology. A highly qualified workforce is thus important not only for jobs in the high-end skills sector, it is also increasingly important for maintaining an overall cost advantage in the lower skill segments. This indicator takes a closer look at the pricing of skills by examining labour costs by educational levels and some of the economic implications.

Evidence and explanations

Labour costs by skill (educational) levels across OECD countries

Average labour costs have attracted considerable attention in cross-country comparisons in recent years. However, average labour costs say little about the price that employers need to pay for different skill levels. This indicator makes direct comparisons of annual labour costs by educational levels. The indicator is based on a new data collection on the earnings of individuals who work full-time and full-year supplemented by employer cost data. A three-year average USD exchange rate is used to take stock of the comparative advantages of OECD countries from an employer's perspective (see Table X2.1 for exchange rates).

Table A10.1 presents gross annual earnings by educational levels, the corresponding social contributions employers are required to make on top of these earnings, and the resulting annual labour costs (the sum of the two). The employer's contributions consist of two components, the employer's social contributions, which are generally paid directly to government, and non-tax compulsory payments which are stipulated by law but typically paid into private insurance schemes. These two components make up the additional compensation paid by employers in different countries.

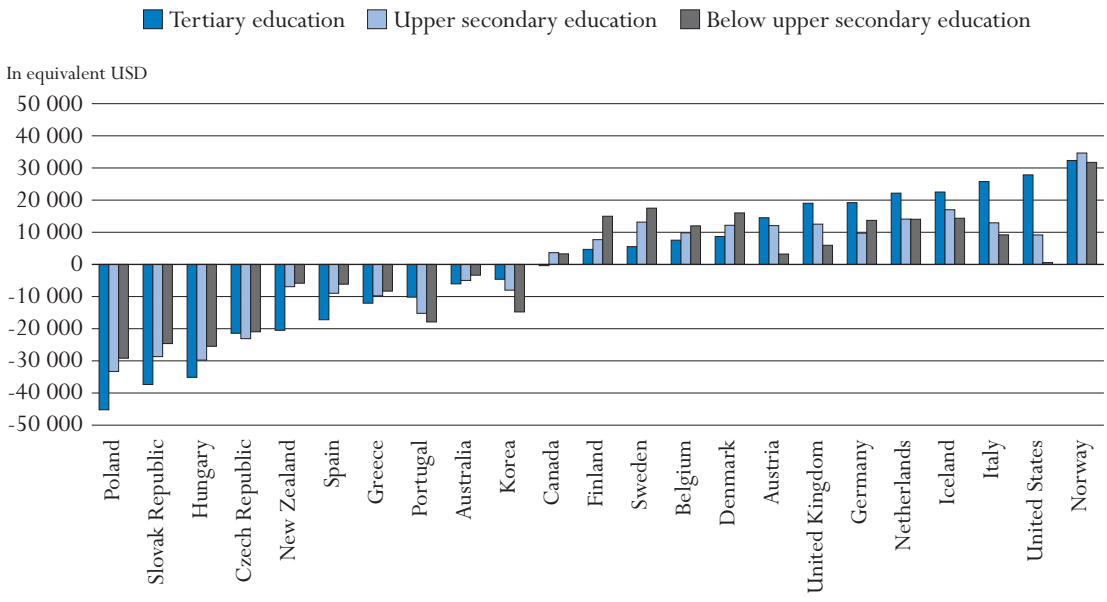
As Table A10.1 shows, the additional employer contributions vary. In some countries, social contributions are borne almost exclusively by the individual and paid out of the salary received. In this case, the social contributions are included in gross earnings. Some countries apply a flat rate that is independent of the level of earnings whereas others have a progressive rate, floors or caps on social contributions which change the level of contributions depending on the level of earnings.

Annual labour costs increases sharply with higher levels of educational attainment for both males and females. On average across OECD countries, labour costs for those with below upper secondary education are USD 40 000 for males and USD 29 000 for females. Labour costs increase at the upper secondary level (ISCED 3/4) to USD 48 000 for males and USD 36 000 for females. The largest increase in labour costs is, however, for high-end skills; on average employers pay USD 74 000 for a tertiary-educated male and USD 53 000 for a female with the same level of education.

On average (both males and females) annual labour costs for those with below upper secondary education are USD 36 000, for those with upper secondary education USD 44 000, and for those with tertiary education USD 64 000. Chart A10.2 uses these annual labour costs averages to highlight country differences in labour costs for different levels of educational attainment.

Chart A10.2. Deviation from the OECD mean in annual labour costs, by attainment levels

In equivalent USD for the 25-64 year-old population



Note: Australia refers to 2005. Austria, Belgium, Denmark, Greece, Iceland, Italy, the Netherlands, Poland, Portugal and Sweden refer to 2006. Canada, Finland, Korea, Spain refer to 2007. All other countries refer to 2008.
Countries are ranked in ascending order of the deviation from the OECD mean in annual labour costs of tertiary educated individuals.
Source: OECD, INES LSO Network Economic Working Group special data collection. Table A10.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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The overall cost structure in the Czech Republic, Hungary, Poland and the Slovak Republic is considerably lower than in other OECD countries and annual labour costs are at least USD 20 000 below the OECD average across all educational levels. Even though these countries have among the largest earnings differentials for tertiary-educated individuals (see Indicator A7), their relative cost advantage is typically still in the high-end skill segment. This suggests that earnings differentials will stay well above those in other OECD countries and even increase in the coming years until a balance is reached between supply and demand.

There is also a substantial cost advantage in the high-end skills market in New Zealand and Spain where those with higher education are relatively inexpensive in comparison to their less educated peers. Australia and Canada deviate little from the OECD average in all segments. A few countries with overall higher cost levels show decreasing labour costs with higher educational levels. In an OECD perspective, individuals with tertiary education are less expensive to employ than their counterparts with less education in Belgium, Denmark, Finland and Sweden. Strong labour unions may explain these results to some extent.

Average labour costs for individuals with higher education increase substantially in the remaining countries. In Germany, Iceland, Italy, Norway, the Netherlands, the United Kingdom and the United States, annual labour costs are higher than the OECD average by some USD 20 000 or more, largely as a result of an overall higher cost structure and higher productivity levels.

Labour costs in the high-end skills segment

Owing to their overall high cost structure, OECD countries typically face increasing competition in the lower skills segments, where products and services are easier to imitate and where production can be shifted to low-cost countries. Their pricing power is still in the high-end skills market even if labour costs are higher. Tertiary education thus represents the skill level that gives most OECD countries their comparative advantage on the global scene. Chart A10.3 compares annual labour costs for recent male tertiary graduates (25-34 year-olds) with those with 20-30 years of labour market experience (45-54 year-olds).

Annual labour costs vary substantially among countries and between inexperienced and experienced tertiary workers. They range from less than USD 20 000 for a recent graduate in Poland to over USD 140 000 for an experienced worker with tertiary education in Italy. The relative distance in labour costs between a recent and an experienced tertiary graduate provides some indication of the experience premium but also an indication of shortages in the high-end skills market in some countries.

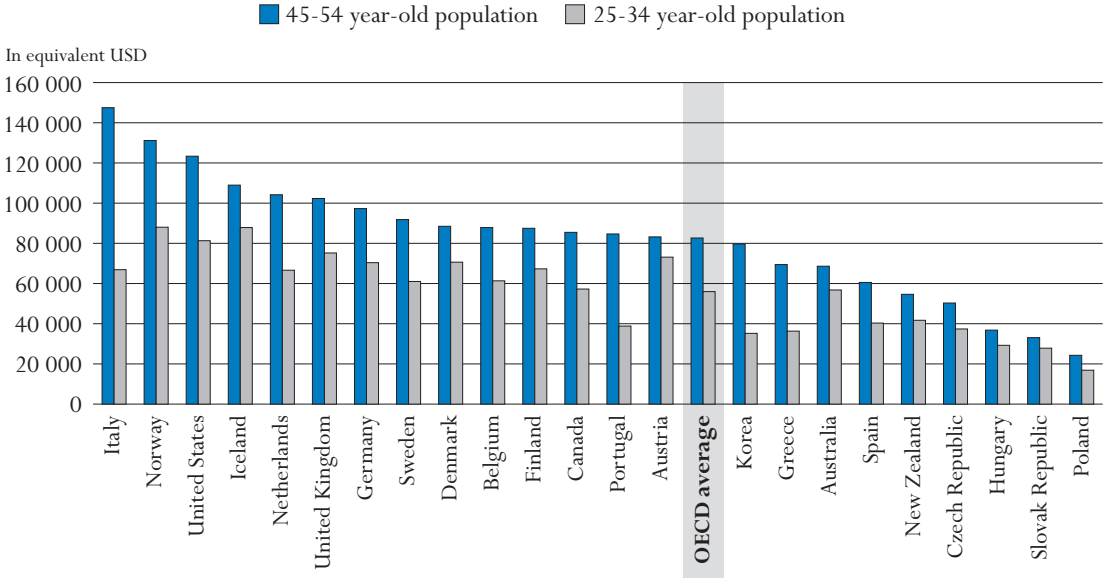
In Austria, Hungary, Poland and the Slovak Republic, overall tertiary attainment levels are low compared with the OECD average (see Indicator A1). At the same time new graduates are relatively well paid compared with their more experienced peers (annual labour costs differ by USD 10 000 or less). In Italy, Korea and Portugal this difference exceeds USD 44 000 per year. The latter two countries have substantially increased the supply of tertiary-educated individuals between the two age groups and the lower costs for recent graduates may indicate that supply and demand have started to balance out.

Italy has made some progress in expanding tertiary education but has done less than other countries. Overall tertiary attainment rates are still half of the OECD average (14%). A large

experience premium as well as above-average labour costs for recent graduates suggest that the tertiary-educated are still in short supply. On average across the OECD area, an employer can expect to pay an additional USD 27 000 per year for an experienced male tertiary graduate, an indication of the additional value of labour market experience for the productivity and versatility of more highly educated individuals.

Chart A10.3. Annual labour costs employing a recent *versus* experienced male tertiary graduate

Annual labour costs in equivalent USD of employing a recent tertiary graduate (25-34 year-olds) and a graduate with 20-30 years of work experience (45-54 year-olds) across OECD countries



Note: Australia refers to 2005. Austria, Belgium, Denmark, Greece, Iceland, Italy, the Netherlands, Poland, Portugal and Sweden refer to 2006. Canada, Finland, Korea, Spain refer to 2007. The other countries refer to 2008.
Countries are ranked in descending order of annual labour costs employing an experienced tertiary graduate.
Source: OECD, INES LSO Network Economic Working Group special data collection. Tables A10.2 and A10.4.
See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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The attractiveness of high-skilled labour in OECD countries

The price of high-skilled labour reflects largely productivity differentials and the overall cost structure in different countries but also the supply of tertiary-educated individuals. As such there is a trade-off between price and skills that can appear attractive for investors. Notwithstanding the difficulties that a high supply of higher educated individuals can cause in terms of stern competition for jobs at the individual level, a highly skilled workforce at an attractive price will attract attention from employers and investors both from abroad and within a country.

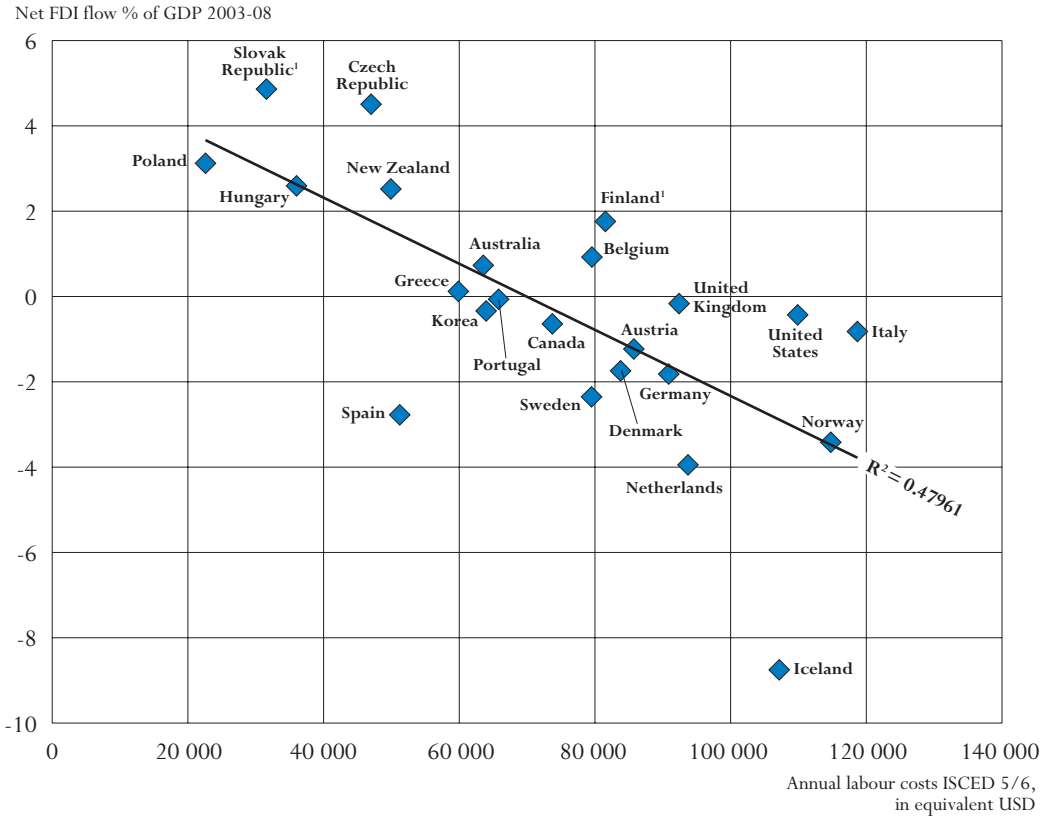
Foreign direct investment (FDI) provides some indication of how attractive different countries are in terms of investment opportunities. Chart A10.4 presents the correlation between net FDI (inflow minus outflow) as a percentage of GDP and the annual labour costs of tertiary-educated males in

the labour force (25-64 year-olds). There is a link between the costs of tertiary graduates and the net flow of FDI. Countries with relatively inexpensive labour costs for tertiary-educated individuals attract more investment than countries in which the labour costs for such individuals is relatively high. It should be noted that other factors might explain part of this association and as such the chart should be interpreted with caution.

The reason for the cost advantage in the high-skills segment differs among countries. The Czech Republic, Hungary, Poland and the Slovak Republic benefit from an overall low labour cost structure. The relatively low costs for high-skilled labour in New Zealand and Spain are instead a consequence of a large supply of tertiary graduates (see Indicator A1). New Zealand has been able to capitalise on this advantage whereas Spain has been unable to attract investment to the same extent over the period 2003-08.

Chart A10.4. Foreign direct investment and annual labour costs for the tertiary educated male 25-64 year-old population

Foreign direct investment (FDI) net balance as a percentage of GDP (average 2003-08) and annual labour costs (USD) for the tertiary educated male 25-64 year-old population



1. Average 2003-07.

Source: OECD, INES LSO Network Economic Working Group special data collection. Tables A10.1 and A10.6 available on line. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310263

A number of countries are doing better than expected with regard to labour costs. In spite of their higher labour costs, Belgium, Finland, Italy, the United Kingdom and the United States attract more FDI at a higher price than other OECD countries, potentially because of higher productivity levels and other market opportunities. Broadly speaking, net FDI signals the attractiveness of labour markets and access to skilled labour but also other investment opportunities, linked for instance to product markets (size and growth of the local market) as well as countries' regulatory frameworks for business (see Definitions and methodologies section).

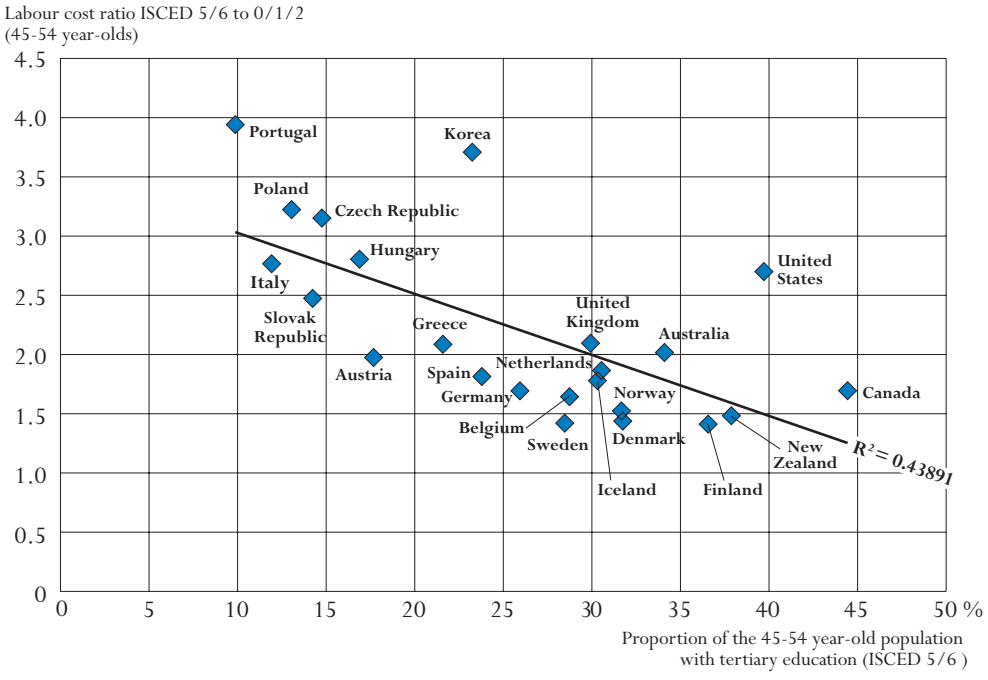
Supply of tertiary-educated individuals and the skills premium

The price of skills varies substantially among countries depending on the stage of their economic and technological development. Tertiary-educated individuals are required both by business organisations and public functions within the country and by sectors that compete in the global arena. A certain level of tertiary-educated individuals is typically needed to run public services efficiently independently of how advanced the economy is overall. Having too few higher-educated individuals will lead to an upward pressure on labour costs.

Employers pay an additional premium for labour market experience, as shown in Chart A10.3, but the main difference in labour costs is linked to the skill level. Chart A10.5 compares the skills premium among 45-54 year-olds (labour costs for tertiary-educated individuals compared to individuals with below upper secondary education) and tertiary attainment levels for the same age group.

Chart A10.5. Labour cost ratio and attainment levels

Labour cost ratio of tertiary educated individuals (5/6) to below upper secondary individuals (0/1/2) and attainment levels of the 45-54 year-old population (males + females)



Source: OECD, INES LSO Network Economic Working Group special data collection. Tables A10.4 and A1.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310263

For a tertiary graduate, labour costs vary from close to four times as much in Portugal to less than 1.5 times as much in Denmark, Finland, New Zealand and Sweden than for an individual with below upper secondary education. On average across OECD countries, employers pay 2.0 times more for tertiary graduates than for those without upper secondary education. The skills premium falls with increasing levels of tertiary attainment.

The skills premium (ratio) for experienced workers is particularly high in countries with low attainment levels. In the Czech Republic, Hungary, Italy, Poland and Portugal this labour cost premium exceeds 2.5 and at the same tertiary attainment levels are below 20% (see Indicator A1). Labour costs for tertiary graduates in Korea and the United States are also above 2.5 times those for individuals with below upper secondary education, but attainment levels are higher in Korea (23%) and substantially higher in the Unites States (40%). This reflects either that, despite a relatively large supply of tertiary graduates demand is even greater, or that productivity differentials between these two educational categories are particularly wide in these two countries.

Workforce skills are the principal advantage that countries can leverage in the global competition for investment and jobs. As global competition moves into new areas, a highly skilled labour force is essentially the only way of maintaining earnings and high living standards in the longer term. In this context, it should also be recognised that policy decisions beyond the educational domain may be needed to improve economic incentives and to take full advantage of a highly skilled labour force.

Definitions and methodologies

The current indicator is based on a new data collection on the earnings of individuals who work full-time and full-year. This data collection is supplemented with information on employers' social contributions and non-tax compulsory payments from the OECD's Taxing Wages Database.

For the definition of full-time earnings, countries were asked whether they applied a self-designated full-time status or a threshold value of typical number of hours worked per week. Italy, Spain, Sweden, the United Kingdom and the partner country Israel reported self-designated full-time status; the other countries defined the full-time status by the number of working hours per week. The threshold was 36 hours per week in Hungary and the Slovak Republic, 35 in Brazil, Canada, Germany and the United States, and 30 in the Czech Republic, Norway and New Zealand. Other participating countries did not report a minimum normal number of working hours for full-time work. The data on full-time full-year earnings for some countries are based on the European Survey on Income and Living Conditions (SILC), which uses a self-designated approach in establishing full-time status.

Not all countries were able to verify full-time status over the whole reference period for the earnings data. Hungary and New Zealand reported only full-time status at the time of the survey, while the surveys in the Czech Republic, Germany, Italy, Norway, the Slovak Republic and Spain verified the full-time status over the whole reference period. For the other countries the full-time status was verified for a period similar to the length of the reference period, but the period may differ slightly from the reference period for earnings.

The length of the reference period for earnings also differed. New Zealand and the United Kingdom reported data on weekly earnings, while Germany, Hungary, the Netherlands and the partner

country Israel reported monthly data. A correction of the data for these countries was made to put the earnings on an annual basis. In the Czech Republic, Italy, Norway, the Slovak Republic, Spain, Sweden, the United States and the partner country Israel, the reference period for the earnings data was 12 months. The full-time earnings data shown in this indicator thus differ across countries to some extent. Further to this, immigration can sometimes impact earnings levels and explain some of the differences observed between countries. The results should therefore be interpreted with caution.

Foreign direct investment (FDI) as a percentage of GDP for OECD countries is taken from *OECD Science, Technology and Industry Scoreboard 2009* (OECD, 2009b) and the underlying statistics are based on the IMF's Balance of Payments Statistics of July 2009. Note, however, that net foreign direct investment consists of a variety of inflows and outflows, including direct investments in production and service facilities, mergers and acquisitions between companies, but also inter-company loans and other financial transactions that may have little to do with the labour force. This makes the FDI flows volatile between years as well as between inflows and outflows. The six-year average (2003-08) of net FDI mitigates some of these problems, but some caution is needed in interpreting the figures.

The annual Taxing Wages publication provides details of taxes paid on wages in all thirty member countries of the OECD. The information contained in the report covers the personal income tax and social security contributions paid by employees and their employers, and cash benefits received by families. The results allow quantitative cross-country comparisons of labour cost levels and the overall tax and benefit position of single persons and families. The focus of the 2010 edition of the *Taxing Wages Report* (OECD, 2010a) is the presentation of accurate estimates of the tax/benefit position of employees in 2009. The report shows definitive data on the tax/benefit position of employees for the year 2008 and shows tax burdens for the period 2000-09.

Further references

OECD (2009b), *Science, Technology and Industry Scoreboard 2009,* OECD Publishing.

OECD (2010a), *Taxing Wages 2008-2009,* OECD Publishing.

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310263

- ***Table A10.3. Annual full time earnings and annual labour costs in equivalent USD, 35-44 year-old population***
- ***Table A10.5. Annual full time earnings and annual labour costs in equivalent USD, 55-64 year-old population***
- ***Table A10.6. Foreign direct investment (FDI) outflows, inflows and net balance as a percentage of GDP for OECD countries, average 2003-08***

A10

Table A10.1.

Annual full time earnings and annual labour costs in equivalent USD, 25-64 year-old population

				Gross annual full time earnings				Employer social contributions and NTCP				Annual labour cost			
				0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All
	Year	Source	Gender	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries															
Australia	2005	National	Males	29 267	35 355	55 258	40 898	4 390	5 303	8 289	6 135	33 657	40 658	63 547	47 032
			Females	26 873	30 022	43 837	35 775	4 031	4 503	6 576	5 366	30 904	34 526	50 412	41 141
			M + F	28 469	34 053	50 765	39 260	4 270	5 108	7 615	5 889	32 739	39 161	58 380	45 149
Austria	2006	SILC	Males	34 521	46 957	65 692	50 418	10 532	14 326	20 042	15 382	45 053	61 282	85 734	65 800
			Females	25 139	34 261	50 410	36 951	7 669	10 452	15 379	11 273	32 808	44 713	65 790	48 224
			M + F	30 126	43 068	60 500	45 961	9 191	13 139	18 458	14 022	39 317	56 207	78 958	59 983
Belgium	2006	SILC	Males	40 028	44 470	60 744	50 405	11 654	13 189	18 809	15 238	51 682	57 659	79 553	65 643
			Females	28 146	33 736	47 267	41 298	6 947	9 481	14 154	12 093	35 093	43 217	61 421	53 390
			M + F	37 350	41 729	55 118	47 426	10 729	12 242	16 866	14 209	48 079	53 971	71 985	61 635
Canada	2007	National	Males	40 387	47 693	67 814	56 951	4 618	4 992	5 904	5 420	45 005	52 685	73 717	62 371
			Females	24 570	35 339	47 478	41 497	2 788	4 079	4 982	4 706	27 358	39 418	52 460	46 203
			M + F	35 293	43 023	58 896	50 710	4 074	4 776	5 510	5 131	39 367	47 800	64 405	55 841
Czech Republic	2008	National	Males	12 837	16 822	34 816	20 090	4 493	5 888	12 185	7 031	17 330	22 710	47 001	27 121
			Females	9 699	13 247	24 573	14 580	3 394	4 637	8 600	5 103	13 093	17 884	33 173	19 683
			M + F	11 206	15 588	31 869	18 181	3 922	5 456	11 154	6 363	15 128	21 043	43 023	24 544
Denmark	2006	SILC	Males	57 999	59 979	83 422	65 614	355	355	355	355	58 354	60 334	83 777	65 969
			Females	41 846	49 056	61 921	52 355	355	355	355	355	42 201	49 411	62 276	52 710
			M + F	51 746	55 961	72 762	60 156	355	355	355	355	52 101	56 316	73 117	60 511
Finland	2007	National	Males	45 288	46 691	65 758	53 903	10 869	11 206	15 782	12 937	56 157	57 897	81 540	66 840
			Females	35 790	36 161	48 119	42 109	8 590	8 679	11 549	10 106	44 380	44 840	59 668	52 216
			M + F	41 189	41 807	55 741	47 939	9 885	10 034	13 378	11 505	51 075	51 840	69 119	59 444
France	2006	National	Males	w	w	w	w	w	w	w	w	w	w	w	w
			Females	w	w	w	w	w	w	w	w	w	w	w	w
			M + F	w	w	w	w	w	w	w	w	w	w	w	w
Germany	2008	National	Males	45 350	48 102	77 272	57 882	8 849	9 386	13 603	11 294	54 199	57 488	90 875	69 176
			Females	32 503	38 919	56 365	44 153	6 342	7 594	10 998	8 615	38 845	46 514	67 363	52 768
			M + F	41 661	45 079	70 805	53 482	8 129	8 796	12 853	10 436	49 790	53 875	83 657	63 917
Greece	2006	SILC	Males	25 214	29 797	46 749	32 255	7 075	8 361	13 118	9 051	32 290	38 158	59 866	41 306
			Females	13 587	21 164	34 049	23 715	3 813	5 939	9 554	6 654	17 400	27 102	43 603	30 369
			M + F	21 691	26 841	40 902	29 150	6 087	7 532	11 477	8 179	27 778	34 373	52 379	37 329
Hungary	2008	National	Males	8 597	11 081	26 886	14 147	3 004	3 836	9 131	4 863	11 601	14 917	36 016	19 011
			Females	7 229	10 187	18 253	12 065	2 546	3 537	6 239	4 166	9 775	13 724	24 492	16 231
			M + F	7 857	10 672	21 863	13 098	2 756	3 699	7 448	4 512	10 614	14 371	29 311	17 610
Iceland	2006	SILC	Males	49 637	59 053	94 550	65 163	6 622	7 878	12 613	8 693	56 258	66 931	107 163	73 855
			Females	37 008	41 819	59 618	47 428	4 937	5 579	7 953	6 327	41 945	47 397	67 571	53 755
			M + F	44 512	53 949	76 726	58 267	5 938	7 197	10 235	7 773	50 450	61 146	86 961	66 039
Italy	2006	National	Males	34 993	45 745	85 088	45 689	13 818	18 064	33 599	18 042	48 811	63 809	118 687	63 731
			Females	25 947	33 069	46 360	33 986	10 246	13 058	18 306	13 420	36 192	46 127	64 666	47 406
			M + F	32 463	40 917	64 666	41 412	12 819	16 157	25 535	16 353	45 282	57 074	90 201	57 765
Korea	2007	National	Males	21 704	33 108	54 586	37 758	3 927	5 990	9 373	6 832	25 631	39 099	63 959	44 590
			Females	12 834	23 711	35 774	21 780	2 322	4 290	6 473	3 941	15 156	28 001	42 247	25 721
			M + F	18 046	30 597	50 941	33 155	3 265	5 536	8 877	5 999	21 312	36 132	59 819	39 153
Netherlands	2006	National	Males	43 564	50 487	76 780	57 396	8 693	10 716	16 933	12 735	52 257	61 203	93 713	70 131
			Females	33 059	39 569	54 631	45 092	5 624	7 526	11 927	9 140	38 683	47 095	66 558	54 232
			M + F	41 923	48 195	70 717	54 685	8 214	10 046	15 896	11 943	50 137	58 241	86 613	66 627

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INES LSO Network Economic Working Group special data collection.

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Table A10.1. *(continued)*

Annual full time earnings and annual labour costs in equivalent USD, 25-64 year-old population

		Year	Source	Gender	Gross annual full time earnings 0/1/2 (1)	3/4 (2)	5B/5A/6 (3)	All (4)	Employer social contributions and NTCP 0/1/2 (5)	3/4 (6)	5B/5A/6 (7)	All (8)	Annual labour cost 0/1/2 (9)	3/4 (10)	5B/5A/6 (11)	All (12)
OECD countries	**New Zealand**	2008	National	Males	33 495	39 640	49 299	41 471	422	499	621	523	33 917	40 139	49 920	41 993
				Females	24 823	30 710	37 265	32 356	313	387	470	408	25 136	31 097	37 735	32 764
				M + F	29 865	36 746	43 394	37 636	376	463	547	474	30 242	37 209	43 941	38 110
	Norway	2008	National	Males	64 571	75 820	99 968	80 857	9 556	11 221	14 795	11 967	74 127	87 041	114 763	92 823
				Females	49 040	54 912	67 870	59 801	7 258	8 127	10 045	8 850	56 298	63 039	77 915	68 651
				M + F	59 089	68 632	84 298	72 504	8 745	10 158	12 476	10 731	67 834	78 790	96 774	83 235
	Poland	2006	SILC	Males	6 372	9 678	18 146	11 085	1 564	2 375	4 453	2 720	7 936	12 053	22 599	13 805
				Females	4 185	7 179	13 293	9 017	1 027	1 762	3 262	2 213	5 212	8 940	16 555	11 230
				M + F	5 550	8 713	15 428	10 197	1 362	2 138	3 786	2 502	6 912	10 852	19 214	12 699
	Portugal	2006	SILC	Males	17 124	26 517	53 171	22 454	4 067	6 298	12 628	5 333	21 190	32 815	65 799	27 787
				Females	11 120	19 228	37 706	17 845	2 641	4 567	8 955	4 238	13 761	23 795	46 661	22 083
				M + F	14 699	23 374	43 847	20 425	3 491	5 551	10 414	4 851	18 190	28 925	54 261	25 276
	Slovak Republic	2008	National	Males	9 692	12 347	22 527	14 596	3 954	5 037	9 048	5 943	13 646	17 384	31 575	20 539
				Females	7 087	9 280	15 728	10 721	2 892	3 786	6 386	4 374	9 979	13 066	22 115	15 095
				M + F	8 140	10 980	19 297	12 810	3 321	4 480	7 784	5 226	11 461	15 459	27 081	18 036
	Spain	2007	National	Males	24 882	29 492	39 363	31 001	7 502	8 892	11 868	9 347	32 384	38 384	51 231	40 348
				Females	18 127	23 099	32 289	25 947	5 465	6 964	9 735	7 823	23 592	30 064	42 024	33 770
				M + F	22 999	27 019	36 291	29 153	6 934	8 146	10 942	8 790	29 933	35 166	47 232	37 943
	Sweden	2006	SILC	Males	38 146	42 249	54 294	45 031	17 707	19 612	25 203	20 903	55 854	61 861	79 497	65 934
				Females	32 044	33 333	41 403	36 693	14 875	15 473	19 219	17 033	46 918	48 807	60 622	53 726
				M + F	36 602	39 134	47 787	41 761	16 990	18 166	22 182	19 386	53 592	57 300	69 969	61 147
	United Kingdom	2008	National	Males	37 118	51 585	75 368	58 573	8 389	11 658	17 033	13 237	45 506	63 243	92 401	71 810
				Females	28 293	36 287	58 305	45 814	6 394	8 201	13 177	10 354	34 688	44 488	71 482	56 168
				M + F	34 294	46 218	68 085	53 824	7 750	10 445	15 387	12 164	42 045	56 663	83 473	65 989
	United States	2008	National	Males	32 302	47 987	87 208	64 023	8 399	12 477	22 674	16 646	40 701	60 463	109 882	80 669
				Females	22 139	34 310	56 437	44 673	5 756	8 921	14 674	11 615	27 895	43 231	71 110	56 288
				M + F	29 101	42 314	73 247	55 791	7 566	11 002	19 044	14 506	36 667	53 315	92 292	70 297
	OECD average			***Males***	***32 743***	***39 594***	***60 642***	***44 246***	***6 976***	***8 590***	***13 394***	***9 592***	***39 719***	***48 183***	***74 036***	***53 838***
				Females	***23 960***	***29 939***	***42 998***	***33 724***	***5 053***	***6 430***	***9 520***	***7 312***	***29 014***	***36 369***	***52 518***	***41 036***
				M + F	***29 734***	***36 287***	***52 780***	***40 304***	***6 355***	***7 853***	***11 662***	***8 752***	***36 089***	***44 140***	***64 442***	***49 056***
Partner countries	**Brazil**	2008	National	Males	5 054	9 514	24 111	8 244								
				Females	3 214	5 693	15 048	6 272								
				M + F	4 530	7 949	19 621	7 551								
	Estonia	2008	National	Males	12 355	13 316	17 993	14 518								
				Females	6 819	8 138	11 826	9 678								
				M + F	10 138	10 913	14 101	12 005								
	Israel	2008	National	Males	17 496	23 784	41 930	32 938								
				Females	12 826	17 761	27 027	23 571								
				M + F	16 664	21 654	35 299	29 210								
	Slovenia	2006	SILC	Males	20 189	26 467	52 468	30 286								
				Females	17 321	23 236	42 099	27 974								
				M + F	18 979	25 158	46 648	29 258								

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INES LSO Network Economic Working Group special data collection.

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Table A10.2.

Annual full time earnings and annual labour costs in equivalent USD, 25-34 year-old population

				Gross annual full time earnings				Employer social contributions and NTCP				Annual labour cost			
				0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All
	Year	Source	Gender	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries															
Australia	2005	National	Males	c	34 968	49 389	39 564	c	5 245	7 408	5 935	c	40 214	56 798	45 499
			Females	c	30 750	41 656	36 576	c	4 612	6 248	5 486	c	35 362	47 905	42 063
			M + F	30 287	33 740	45 911	38 532	4 543	5 061	6 887	5 780	34 830	38 801	52 798	44 311
Austria	2006	SILC	Males	31 819	38 962	56 032	42 004	9 707	11 887	17 095	12 815	41 526	50 849	73 126	54 818
			Females	22 148	32 046	40 723	34 107	6 757	9 777	12 424	10 406	28 905	41 822	53 147	44 513
			M + F	28 894	36 838	49 592	39 372	8 815	11 239	15 130	12 012	37 709	48 076	64 722	51 384
Belgium	2006	SILC	Males	34 494	40 311	47 205	42 463	9 743	11 752	14 133	12 495	44 237	52 063	61 338	54 958
			Females	26 223	31 118	40 812	38 009	5 971	8 455	11 925	10 957	32 194	39 572	52 737	48 965
			M + F	33 228	37 949	43 799	40 684	9 305	10 936	12 957	11 881	42 533	48 885	56 756	52 564
Canada	2007	National	Males	33 669	39 580	52 060	45 684	3 864	4 541	5 194	4 899	37 533	44 121	57 254	50 583
			Females	22 892	28 029	38 937	35 404	2 572	3 203	4 479	4 087	25 464	31 232	43 416	39 490
			M + F	31 003	35 615	45 566	41 303	3 545	4 112	4 894	4 697	34 548	39 727	50 459	46 000
Czech Republic	2008	National	Males	13 038	16 937	27 694	19 113	4 563	5 928	9 693	6 689	17 602	22 865	37 387	25 802
			Females	10 124	13 709	21 351	15 576	3 543	4 798	7 473	5 452	13 667	18 507	28 824	21 028
			M + F	12 078	15 983	25 455	18 015	4 227	5 594	8 909	6 305	16 306	21 577	34 364	24 320
Denmark	2006	SILC	Males	47 389	55 327	70 267	57 207	355	355	355	355	47 744	55 682	70 622	57 562
			Females	32 548	42 000	54 465	45 922	355	355	355	355	32 903	42 355	54 820	46 277
			M + F	42 535	50 486	61 615	52 488	355	355	355	355	42 890	50 841	61 970	52 843
Finland	2007	National	Males	41 828	43 619	54 275	47 237	10 039	10 469	13 026	11 337	51 867	54 088	67 301	58 574
			Females	33 790	34 272	42 711	39 042	8 110	8 225	10 251	9 370	41 899	42 497	52 962	48 412
			M + F	39 634	40 209	47 823	43 600	9 512	9 650	11 478	10 464	49 146	49 859	59 301	54 064
France	2006	National	Males	w	w	w	w	w	w	w	w	w	w	w	w
			Females	w	w	w	w	w	w	w	w	w	w	w	w
			M + F	w	w	w	w	w	w	w	w	w	w	w	w
Germany	2008	National	Males	37 688	39 955	58 906	43 967	7 354	7 796	11 472	8 579	45 042	47 752	70 378	52 547
			Females	29 309	35 345	51 827	40 271	5 719	6 897	10 113	7 858	35 028	42 241	61 940	48 128
			M + F	35 306	38 122	55 405	42 438	6 889	7 439	10 811	8 281	42 195	45 561	66 216	50 719
Greece	2006	SILC	Males	21 064	21 780	28 359	23 049	5 911	6 111	7 958	6 468	26 975	27 891	36 317	29 517
			Females	9 990	16 336	24 468	19 141	2 803	4 584	6 866	5 371	12 793	20 920	31 333	24 512
			M + F	19 002	19 833	26 270	21 563	5 332	5 565	7 371	6 051	24 333	25 398	33 642	27 613
Hungary	2008	National	Males	8 209	10 504	21 823	13 008	2 874	3 643	7 435	4 482	11 084	14 147	29 257	17 490
			Females	7 170	9 506	16 272	11 736	2 526	3 308	5 575	4 056	9 696	12 814	21 848	15 792
			M + F	7 790	10 093	18 766	12 432	2 734	3 505	6 411	4 289	10 523	13 598	25 177	16 720
Iceland	2006	SILC	Males	47 931	54 007	77 514	56 439	6 394	7 205	10 340	7 529	54 325	61 212	87 855	63 968
			Females	28 470	37 114	47 690	39 869	3 798	4 951	6 362	5 319	32 268	42 066	54 052	45 188
			M + F	42 311	48 420	60 023	49 955	5 644	6 459	8 007	6 664	47 955	54 879	68 030	56 619
Italy	2006	National	Males	30 584	33 978	47 954	34 455	12 077	13 417	18 936	13 605	42 660	47 395	66 890	48 060
			Females	22 815	25 839	34 010	27 308	9 009	10 203	13 430	10 783	31 825	36 042	47 440	38 091
			M + F	28 600	30 667	39 972	31 658	11 293	12 110	15 784	12 501	39 893	42 777	55 757	44 159
Korea	2007	National	Males	17 457	22 957	29 819	26 036	3 158	4 154	5 395	4 711	20 615	27 111	35 214	30 747
			Females	c	25 378	22 735	23 502	c	4 592	4 114	4 252	c	29 969	26 849	27 754
			M + F	17 457	23 511	26 734	25 158	3 158	4 254	4 837	4 552	20 615	27 765	31 571	29 710
Netherlands	2006	National	Males	37 976	41 114	54 681	45 028	7 060	7 978	11 941	9 121	45 036	49 092	66 623	54 149
			Females	30 701	35 912	47 221	40 984	4 935	6 458	9 762	7 939	35 636	42 369	56 983	48 923
			M + F	36 569	39 525	51 508	43 677	6 650	7 513	11 014	8 726	43 219	47 039	62 523	52 403

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INES LSO Network Economic Working Group special data collection.

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Table A10.2. *(continued)*

Annual full time earnings and annual labour costs in equivalent USD, 25-34 year-old population

		Year	Source	Gender	Gross annual full time earnings 0/1/2 (1)	3/4 (2)	5B/5A/6 (3)	All (4)	Employer social contributions and NTCP 0/1/2 (5)	3/4 (6)	5B/5A/6 (7)	All (8)	Annual labour cost 0/1/2 (9)	3/4 (10)	5B/5A/6 (11)	All (12)
OECD countries	**New Zealand**	2008	National	Males	30 119	35 647	41 188	36 493	380	449	519	460	30 499	36 096	41 707	36 953
				Females	23 990	30 657	34 274	31 472	302	386	432	397	24 292	31 043	34 706	31 869
				M + F	27 983	33 972	37 705	34 385	353	428	475	433	28 336	34 400	38 180	34 818
	Norway	2008	National	Males	57 270	68 837	76 679	68 559	8 476	10 188	11 348	10 147	65 746	79 025	88 027	78 706
				Females	42 725	48 775	58 199	53 233	6 323	7 219	8 613	7 879	49 049	55 993	66 813	61 112
				M + F	52 860	62 542	66 560	62 257	7 823	9 256	9 851	9 214	60 684	71 798	76 411	71 472
	Poland	2006	SILC	Males	7 140	8 293	13 542	9 605	1 752	2 035	3 323	2 357	8 892	10 328	16 865	11 962
				Females	4 874	5 789	10 467	7 989	1 196	1 421	2 569	1 961	6 071	7 209	13 035	9 950
				M + F	6 668	7 455	11 836	8 949	1 636	1 830	2 905	2 196	8 305	9 285	14 741	11 145
	Portugal	2006	SILC	Males	14 117	17 725	31 387	16 813	3 353	4 210	7 454	3 993	17 469	21 934	38 841	20 806
				Females	10 286	14 198	25 993	15 632	2 443	3 372	6 173	3 713	12 729	17 570	32 166	19 345
				M + F	12 605	16 217	27 635	16 271	2 994	3 852	6 563	3 864	15 598	20 069	34 198	20 136
	Slovak Republic	2008	National	Males	9 483	12 619	19 833	14 832	3 869	5 148	7 993	6 035	13 352	17 767	27 826	20 867
				Females	7 390	9 397	14 703	11 372	3 015	3 834	5 985	4 640	10 405	13 231	20 688	16 012
				M + F	8 603	11 333	17 473	13 375	3 510	4 624	7 069	5 457	12 114	15 956	24 542	18 832
	Spain	2007	National	Males	23 989	26 417	30 982	27 473	7 233	7 965	9 341	8 283	31 221	34 381	40 323	35 757
				Females	17 947	19 228	27 181	23 421	5 411	5 797	8 195	7 061	23 358	25 025	35 376	30 482
				M + F	22 513	23 363	29 231	25 888	6 788	7 044	8 813	7 805	29 301	30 408	38 044	33 694
	Sweden	2006	SILC	Males	30 973	36 500	41 680	37 567	14 378	16 943	19 348	17 438	45 351	53 443	61 028	55 005
				Females	22 580	26 130	33 042	29 515	10 482	12 129	15 338	13 701	33 061	38 259	48 381	43 215
				M + F	29 036	33 211	37 399	34 448	13 478	15 417	17 360	15 991	42 514	48 628	54 759	50 439
	United Kingdom	2008	National	Males	35 615	44 540	61 342	51 067	8 049	10 066	13 863	11 541	43 664	54 606	75 205	62 608
				Females	27 835	33 601	52 378	44 591	6 291	7 594	11 837	10 078	34 126	41 194	64 215	54 669
				M + F	33 290	40 852	57 047	48 506	7 524	9 233	12 893	10 962	40 813	50 085	69 940	59 468
	United States	2008	National	Males	28 084	39 574	64 528	48 752	7 302	10 289	16 777	12 675	35 386	49 863	81 305	61 427
				Females	17 978	29 485	47 499	38 942	4 674	7 666	12 350	10 125	22 653	37 151	59 848	49 067
				M + F	25 575	35 858	56 215	44 675	6 650	9 323	14 616	11 615	32 225	45 182	70 831	56 290
	OECD average			***Males***	***29 088***	***34 094***	***45 963***	***36 801***	***6 268***	***7 294***	***10 015***	***7 911***	***35 356***	***41 388***	***55 978***	***44 712***
				Females	***21 514***	***26 722***	***36 027***	***30 592***	***4 583***	***5 645***	***7 864***	***6 576***	***26 096***	***32 367***	***43 891***	***37 168***
				M + F	***27 123***	***31 556***	***40 850***	***34 332***	***5 772***	***6 730***	***8 930***	***7 395***	***32 895***	***38 287***	***49 780***	***41 727***
Partner countries	**Brazil**	2008	National	Males	4 256	7 189	17 627	6 654								
				Females	2 942	4 887	12 119	5 647								
				M + F	3 918	6 233	14 695	6 292								
	Estonia	2008	National	Males	13 536	13 847	19 473	15 579								
				Females	6 778	8 856	12 464	10 180								
				M + F	11 085	11 918	15 937	13 277								
	Israel	2008	National	Males	14 956	19 642	31 035	25 257								
				Females	10 922	14 522	22 888	20 106								
				M + F	14 298	18 013	27 234	23 198								
	Slovenia	2006	SILC	Males	18 661	24 657	40 050	26 343								
				Females	16 741	19 617	32 018	23 681								
				M + F	18 114	22 645	34 953	25 160								

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INES LSO Network Economic Working Group special data collection.

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Table A10.4.

Annual full time earnings and annual labour costs in equivalent USD, 45-54 year-old population

				Gross annual full time earnings				Employer social contributions and NTCP				Annual labour cost			
				0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All	0/1/2	3/4	5B/5A/6	All
	Year	Source	Gender	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries															
Australia	2005	National	Males	27 461	36 069	59 667	42 409	4 119	5 410	8 950	6 361	31 580	41 479	68 617	48 771
			Females	26 201	29 393	45 852	35 187	3 930	4 409	6 878	5 278	30 132	33 801	52 730	40 465
			M + F	26 915	34 473	54 292	39 932	4 037	5 171	8 144	5 990	30 952	39 644	62 436	45 922
Austria	2006	SILC	Males	37 120	48 470	63 758	51 347	11 325	14 788	19 452	15 665	48 445	63 258	83 210	67 012
			Females	25 614	35 457	55 625	38 120	7 814	10 817	16 971	11 630	33 429	46 274	72 596	49 750
			M + F	30 932	43 987	61 093	46 556	9 437	13 420	18 639	14 204	40 369	57 407	79 731	60 760
Belgium	2006	SILC	Males	41 424	47 863	66 998	53 608	12 136	14 361	20 858	16 345	53 560	62 224	87 856	69 953
			Females	27 715	35 683	52 309	43 579	6 728	10 153	15 896	12 881	34 442	45 837	68 204	56 460
			M + F	37 981	44 852	61 385	50 599	10 947	13 320	19 031	15 305	48 928	58 173	80 416	65 904
Canada	2007	National	Males	46 260	52 362	79 344	64 159	4 926	5 208	6 128	5 753	51 186	57 569	85 472	69 911
			Females	24 612	40 434	55 285	46 416	2 793	4 623	5 343	4 933	27 404	45 057	60 628	51 349
			M + F	39 632	47 533	68 935	56 935	4 546	4 985	5 925	5 419	44 178	52 517	74 860	62 354
Czech Republic	2008	National	Males	13 068	16 242	37 260	19 950	4 574	5 685	13 041	6 983	17 642	21 927	50 301	26 933
			Females	9 653	12 949	26 454	13 941	3 378	4 532	9 259	4 879	13 031	17 482	35 712	18 820
			M + F	10 871	14 933	34 264	17 550	3 805	5 227	11 992	6 142	14 676	20 160	46 257	23 692
Denmark	2006	SILC	Males	57 250	63 707	88 129	67 829	355	355	355	355	57 605	64 062	88 484	68 184
			Females	47 863	51 911	66 507	56 004	355	355	355	355	48 218	52 266	66 862	56 359
			M + F	53 324	59 455	76 843	62 816	355	355	355	355	53 679	59 810	77 198	63 171
Finland	2007	National	Males	45 868	48 103	70 560	56 319	11 008	11 545	16 934	13 517	56 876	59 647	87 495	69 836
			Females	36 185	36 772	50 273	43 087	8 684	8 825	12 066	10 341	44 870	45 597	62 338	53 427
			M + F	41 443	42 233	58 521	49 151	9 946	10 136	14 045	11 796	51 389	52 369	72 565	60 947
France	2006	National	Males	w	w	w	w	w	w	w	w	w	w	w	w
			Females	w	w	w	w	w	w	w	w	w	w	w	w
			M + F	w	w	w	w	w	w	w	w	w	w	w	w
Germany	2008	National	Males	48 884	50 016	83 019	61 607	9 538	9 759	14 269	11 786	58 422	59 775	97 288	73 393
			Females	34 488	41 084	59 706	46 249	6 729	8 016	11 565	9 024	41 217	49 100	71 271	55 273
			M + F	44 421	47 084	76 402	56 823	8 668	9 187	13 502	11 087	53 088	56 272	89 904	67 910
Greece	2006	SILC	Males	27 722	36 170	54 222	37 593	7 779	10 149	15 215	10 549	35 501	46 319	69 437	48 141
			Females	15 198	22 850	42 732	26 993	4 265	6 412	11 991	7 574	19 462	29 261	54 722	34 567
			M + F	23 621	31 137	49 283	33 626	6 628	8 737	13 829	9 435	30 248	39 875	63 112	43 061
Hungary	2008	National	Males	8 949	11 286	27 485	13 948	3 122	3 905	9 332	4 797	12 070	15 191	36 817	18 745
			Females	7 275	10 598	19 383	12 197	2 561	3 674	6 617	4 210	9 836	14 273	26 001	16 407
			M + F	7 897	10 946	22 315	12 977	2 769	3 791	7 599	4 471	10 666	14 737	29 914	17 449
Iceland	2006	SILC	Males	50 455	60 220	96 145	67 443	6 731	8 033	12 826	8 997	57 186	68 253	108 970	76 439
			Females	39 797	47 277	66 873	52 679	5 309	6 307	8 921	7 027	45 106	53 584	75 794	59 706
			M + F	45 723	56 228	81 349	61 462	6 100	7 501	10 852	8 199	51 823	63 729	92 201	69 661
Italy	2006	National	Males	33 907	62 558	105 750	53 976	13 389	24 702	41 758	21 314	47 295	87 260	147 508	75 290
			Females	24 971	37 811	64 555	38 187	9 860	14 931	25 491	15 079	34 831	52 742	90 046	53 266
			M + F	31 361	52 506	86 759	48 252	12 383	20 733	34 259	19 054	43 744	73 239	121 018	67 306
Korea	2007	National	Males	22 445	35 455	68 398	40 925	4 061	6 415	11 250	7 405	26 506	41 870	79 648	48 330
			Females	11 154	28 829	53 219	22 499	2 018	5 216	9 187	4 071	13 172	34 045	62 406	26 570
			M + F	17 731	33 782	66 640	35 753	3 208	6 112	11 011	6 469	20 939	39 894	77 651	42 222
Netherlands	2006	National	Males	45 905	55 558	85 721	62 936	9 377	12 198	18 462	14 353	55 282	67 756	104 183	77 289
			Females	34 081	42 209	60 314	46 909	5 922	8 297	13 587	9 671	40 003	50 507	73 901	56 580
			M + F	43 895	53 233	80 667	60 029	8 790	11 518	17 598	13 504	52 685	64 751	98 264	73 533

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INES LSO Network Economic Working Group special data collection.

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A10

Table A10.4. *(continued)*

Annual full time earnings and annual labour costs in equivalent USD, 45-54 year-old population

		Year	Source	Gender	Gross annual full time earnings 0/1/2 (1)	3/4 (2)	5B/5A/6 (3)	All (4)	Employer social contributions and NTCP 0/1/2 (5)	3/4 (6)	5B/5A/6 (7)	All (8)	Annual labour cost 0/1/2 (9)	3/4 (10)	5B/5A/6 (11)	All (12)
OECD countries	**New Zealand**	2008	National	Males	35 553	41 529	53 952	43 819	448	523	680	552	36 001	42 053	54 632	44 371
				Females	25 401	30 917	38 525	32 766	320	390	485	413	25 721	31 306	39 011	33 179
				M + F	31 064	37 791	46 068	38 922	391	476	580	490	31 456	38 267	46 649	39 413
	Norway	2008	National	Males	69 604	80 787	114 274	88 144	10 301	11 956	16 913	13 045	79 906	92 743	131 186	101 189
				Females	51 994	57 791	74 559	63 409	7 695	8 553	11 035	9 385	59 689	66 344	85 594	72 794
				M + F	62 537	72 705	95 268	78 223	9 256	10 760	14 100	11 577	71 793	83 465	109 368	89 800
	Poland	2006	SILC	Males	6 230	10 210	19 494	11 092	1 529	2 506	4 784	2 722	7 759	12 716	24 278	13 814
				Females	4 289	7 861	15 795	9 329	1 053	1 929	3 876	2 289	5 342	9 790	19 671	11 619
				M + F	5 362	9 164	17 285	10 259	1 316	2 249	4 242	2 518	6 678	11 413	21 526	12 777
	Portugal	2006	SILC	Males	18 464	37 798	68 417	25 413	4 385	8 977	16 249	6 036	22 849	46 775	84 666	31 448
				Females	11 620	26 167	56 178	20 673	2 760	6 215	13 342	4 910	14 380	32 382	69 520	25 582
				M + F	15 475	33 252	60 990	23 295	3 675	7 897	14 485	5 533	19 151	41 149	75 475	28 827
	Slovak Republic	2008	National	Males	9 861	12 123	23 608	14 198	4 023	4 946	9 471	5 787	13 884	17 069	33 079	19 985
				Females	7 124	9 219	16 346	10 423	2 907	3 761	6 628	4 253	10 031	12 981	22 974	14 676
				M + F	7 978	10 700	19 806	12 266	3 255	4 365	7 983	5 005	11 233	15 065	27 788	17 271
	Spain	2007	National	Males	26 086	32 931	46 516	33 590	7 865	9 929	14 025	10 127	33 951	42 860	60 541	43 717
				Females	18 430	25 562	38 775	28 072	5 557	7 707	11 691	8 464	23 987	33 269	50 465	36 535
				M + F	23 773	30 186	43 130	31 584	7 168	9 101	13 004	9 523	30 941	39 287	56 134	41 106
	Sweden	2006	SILC	Males	40 194	44 247	62 704	47 862	18 658	20 539	29 107	22 218	58 853	64 787	91 811	70 080
				Females	33 457	36 515	47 591	40 492	15 531	16 950	22 092	18 796	48 988	53 464	69 683	59 288
				M + F	38 485	41 439	54 665	44 911	17 865	19 236	25 376	20 848	56 350	60 676	80 041	65 758
	United Kingdom	2008	National	Males	39 525	56 489	83 459	62 976	8 933	12 767	18 862	14 232	48 458	69 256	102 320	77 208
				Females	27 775	37 357	61 143	46 136	6 277	8 443	13 818	10 427	34 052	45 800	74 961	56 563
				M + F	34 927	48 969	73 197	56 054	7 894	11 067	16 543	12 668	42 821	60 036	89 740	68 722
	United States	2008	National	Males	33 026	52 581	97 906	70 684	8 587	13 671	25 455	18 378	41 613	66 251	123 361	89 062
				Females	23 378	35 456	58 914	45 783	6 078	9 219	15 318	11 903	29 456	44 675	74 232	57 686
				M + F	29 650	45 132	80 061	59 754	7 709	11 734	20 816	15 536	37 359	56 867	100 877	75 290
	OECD average			***Males***	***34 142***	***43 164***	***67 686***	***47 471***	***7 268***	***9 492***	***14 973***	***10 316***	***41 410***	***52 657***	***82 659***	***57 787***
				Females	***24 708***	***32 178***	***48 996***	***35 614***	***5 153***	***6 945***	***10 974***	***7 730***	***29 861***	***39 123***	***59 971***	***43 344***
				M + F	***30 652***	***39 205***	***59 531***	***42 945***	***6 528***	***8 569***	***13 213***	***9 353***	***37 180***	***47 774***	***72 745***	***52 298***
Partner countries	**Brazil**	2008	National	Males	5 638	12 371	28 762	9 669								
				Females	3 357	7 101	17 751	6 945								
				M + F	4 932	10 357	23 509	8 716								
	Estonia	2008	National	Males	11 268	13 460	16 133	13 964								
				Females	6 170	7 637	11 318	9 171								
				M + F	9 237	10 403	12 766	11 184								
	Israel	2008	National	Males	19 113	26 331	49 222	37 039								
				Females	14 135	19 942	28 535	25 024								
				M + F	18 195	23 877	39 506	32 014								
	Slovenia	2006	SILC	Males	21 055	27 013	59 016	31 778								
				Females	17 610	25 376	50 645	30 015								
				M + F	19 442	26 284	54 501	30 948								

Note: NTCP: non-tax compulsory payments Employer social contributions and NTCP based on OECD *Taxing Wages Database* (Centre for Tax Policy and Administration), except for the United States for which Bureau of Labor Statistics information is used and the United Kingdom for which EU Labour Cost Survey data is used. SILC: Statistics on Income and Living Conditions (Eurostat). USD based on three-year moving average of currency exchange rates (OECD annual exchange rates).

Source: OECD, INÉS LSO Network Economic Working Group special data collection.

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Chapter

B

Financial and Human Resources Invested In Education

Classification of educational expenditure

Educational expenditure in this chapter are classified through three dimensions:

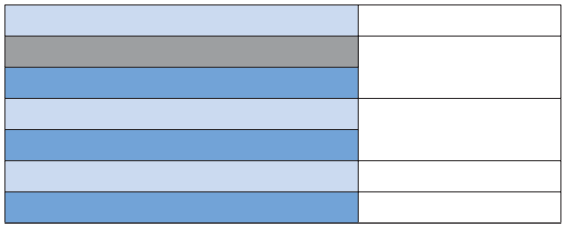
- The first dimension – represented by the horizontal axis in the diagram below – relates to the location where spending occurs. Spending on schools and universities, education ministries and other agencies directly involved in providing and supporting education is one component of this dimension. Spending on education outside these institutions is another.
- The second dimension – represented by the vertical axis in the diagram below – classifies the goods and services that are purchased. Not all expenditure on educational institutions can be classified as direct educational or instructional expenditure. Educational institutions in many OECD countries offer various ancillary services – such as meals, transports, housing, etc. – in addition to teaching services to support students and their families. At the tertiary level spending on research and development can be significant. Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials themselves or seek private tutoring for their children.
- The third dimension – represented by the colours in the diagram below – distinguishes among the sources from which funding originates. These include the public sector and international agencies (indicated by the light blue colour), and households and other private entities (indicated by the medium-blue colour). Where private expenditure on education is subsidised by public funds, this is indicated by cells in the grey colour.

Public sources of funds | Private sources of funds | Private funds publicly subsidised

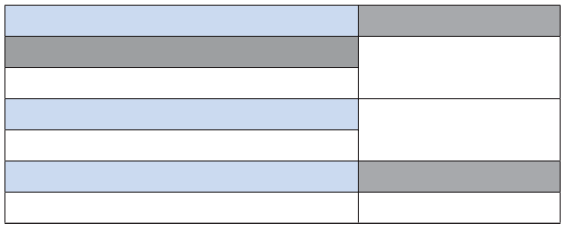
	Spending on educational institutions (*e.g.* schools, universities, educational administration and student welfare services)	**Spending on education outside educational institutions** (*e.g.* private purchases of educational goods and services, including private tutoring)
Spending on educational core services	*e.g.* public spending on instructional services in educational institutions	*e.g.* subsidised private spending on books
	e.g. subsidised private spending on instructional services in educational institutions	*e.g.* private spending on books and other school materials or private tutoring
	e.g. private spending on tuition fees	
Spending on research and development	*e.g.* public spending on university research	
	e.g. funds from private industry for research and development in educational institutions	
Spending on educational services other than instruction	*e.g.* public spending on ancillary services such as meals, transport to schools, or housing on the campus	*e.g.* subsidised private spending on student living costs or reduced prices for transport
	e.g. private spending on fees for ancillary services	*e.g.* private spending on student living costs or transport

Coverage diagrams

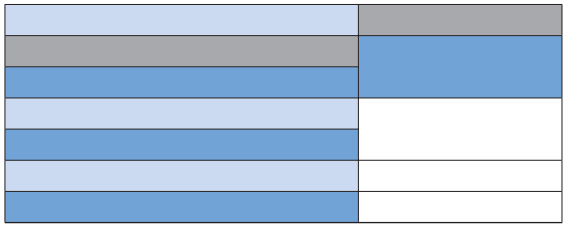
For Indicators B1, B2 and B3



For Indicators B4 and B5



For Indicator B6



HOW MUCH IS SPENT PER STUDENT?

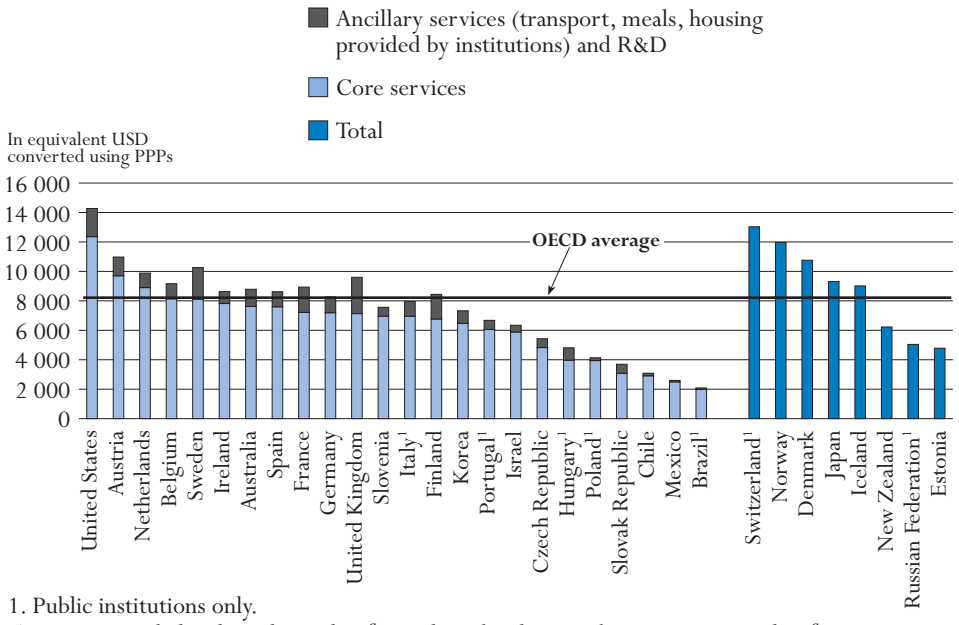
This indicator provides an assessment of the investment in each student. Expenditure by educational institutions per student is largely influenced by teachers' salaries (see Indicators B6 and D3), pension systems, instructional and teaching hours (see Indicators B7, D1 and D4), the cost of teaching materials and facilities, the programme provided (*e.g.* general or vocational), and the number of students enrolled in the education system (see Indicator C1). Policies to attract new teachers or to reduce average class size or change staffing patterns (see Indicator D2) have also contributed to changes in expenditure by educational institutions per student over time. Ancillary and R&D services can also influence the level of expenditure by educational institutions per student.

Key results

Chart B1.1. Annual expenditure by educational institutions per student in primary through tertiary education, by type of services (2007)

Expenditure by educational institutions per student provides a measure of the unit costs of formal education. The chart shows annual expenditure by educational institutions per student by type of services in equivalent USD converted using purchasing power parities, based on full-time equivalents.

OECD countries as a whole spend USD 9 195 annually per student from primary through tertiary education: USD 6 756 per primary student, USD 8 153 per secondary student and USD 16 625 per tertiary student. On average, OECD countries spend nearly twice as much per student at the tertiary level as at the primary level. However, these averages mask a broad range of expenditure patterns across countries. When R&D activities and ancillary services are included, expenditure per student for all services may increase significantly. This is particularly true for Finland, France, Sweden and the United Kingdom.



1. Public institutions only.

Countries are ranked in descending order of expenditure by educational institutions per student for core services.

Source: OECD. Table B1.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- At the tertiary level, R&D activities or ancillary services can account for a significant proportion of expenditure. When these are excluded, expenditure on core educational services in tertiary institutions is, on average, USD 8 587 per student and ranges from USD 5 000 or less in Poland and the Slovak Republic to more than USD 10 000 in Austria, Canada, the Netherlands, Switzerland, the United States and the partner countries Brazil and Israel.

- At the primary and secondary levels, there is a strong positive relationship between spending by educational institutions per student and GDP per capita. The relationship is weaker at the tertiary level. Nevertheless, countries with low levels of expenditure by educational institutions per student may have levels of expenditure per student as a proportion of GDP per capita similar to those of countries with high levels of spending per student. For example, at the primary, secondary and post-secondary non-tertiary levels of education, Korea and Portugal – where expenditure by educational institutions per student and GDP per capita are below the OECD averages – spend more per student relative to GDP per capita than the OECD average.

- OECD countries spend, on average, USD 94 589 per student over the theoretical duration of primary and secondary studies. The cumulative expenditure for each primary and secondary student ranges from less than USD 45 000 in Chile, Mexico, the Slovak Republic and the partner country Brazil to USD 100 000 or more in Austria, Denmark, Iceland, Ireland, Italy, Luxembourg, Norway, Sweden, Switzerland, the United Kingdom and the United States.

- Expenditure by educational institutions per primary, secondary and post-secondary non-tertiary student increased in every country, on average, by 43% between 1995 and 2007, a period of relatively stable student numbers. During the same period, at the tertiary level spending per student has fallen in one-quarter of OECD and partner countries. However, from 2000 to 2007, expenditure by educational institutions per student increased by 14 percentage points on average in OECD countries after having remained stable between 1995 and 2000. This reflects partly governments' efforts to deal with the expansion of tertiary education through massive investment.

- Five out of the 13 countries (the Czech Republic, Mexico, Poland, the Slovak Republic and the United States) in which student enrolments in tertiary education increased by more than 20 percentage points between 2000 and 2007 raised their expenditure on tertiary educational institutions by at least the same proportion over the period, whereas Chile, Hungary, Iceland, Ireland, the Netherlands, Switzerland and the partner countries Brazil and Israel did not.

B1

Policy context

Effective schools require the right combination of trained and talented personnel, appropriate curriculum, adequate facilities and motivated students who are ready to learn. The demand for high quality education, which can translate into higher costs per student, must be balanced against other demands on public expenditure and the overall burden of taxation. As a result, the question of whether the resources devoted to education yield adequate returns figures prominently in the public debate. Although it is difficult to assess the optimal volume of resources needed to prepare each student for life and work in modern societies, international comparisons of spending by educational institutions per student (see Definitions and Methodologies) can provide useful reference points.

Policy makers must also balance the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities, notably at the tertiary level. A comparative review of trends in expenditure by educational institutions per student shows that, in many OECD countries, the expansion of enrolments, particularly in tertiary education, has not always gone hand in hand with increased investment.

In addition, decisions regarding the allocation of funds among the various levels of education are key. For example, some OECD countries emphasise broad access to higher education and some invest in near-universal education for children as young as three or four years old.

Evidence and explanations

What this indicator does and does not cover

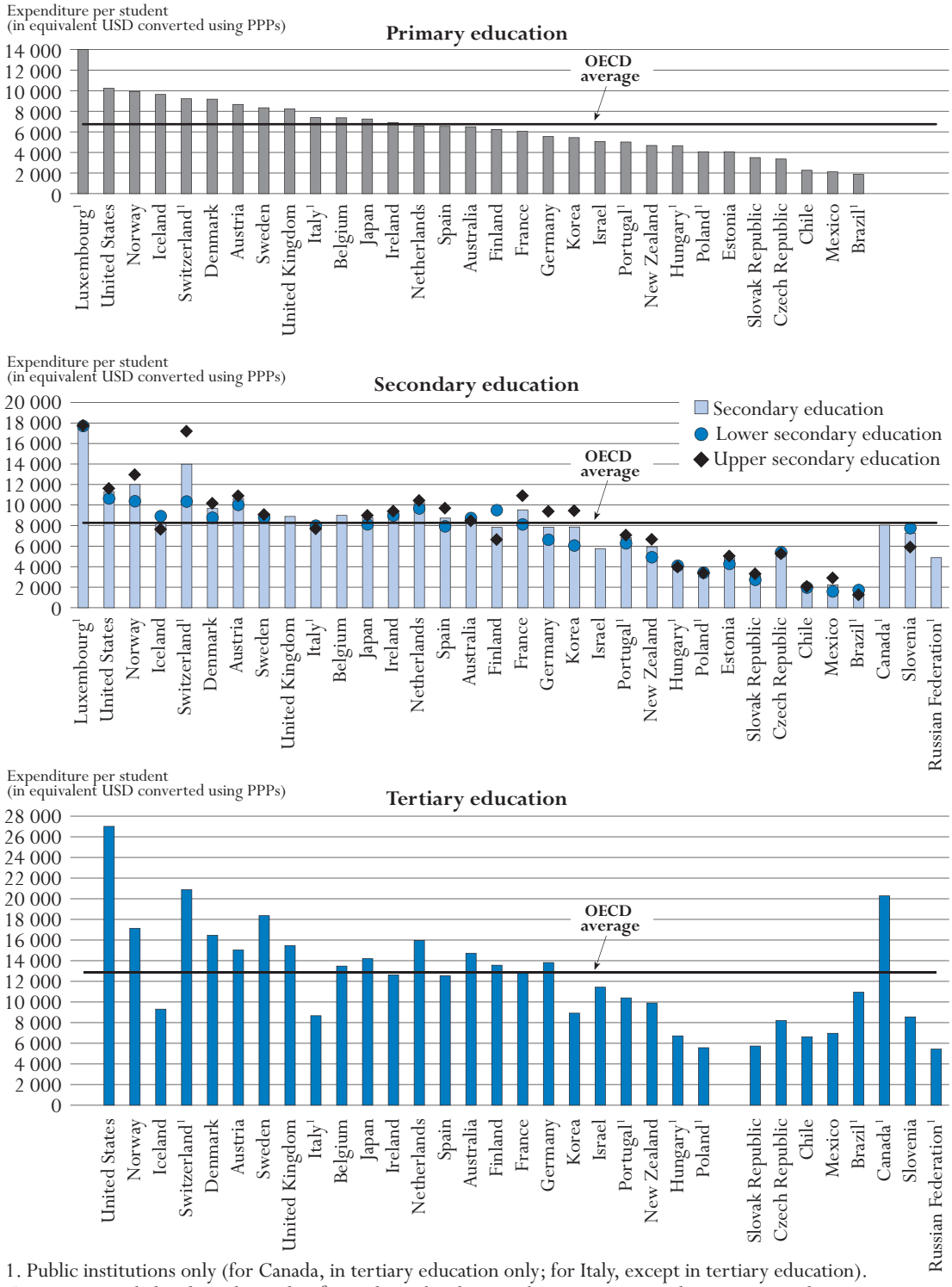
The indicator shows direct public and private expenditure by educational institutions in relation to the number of full-time equivalent students enrolled. Public subsidies for students' living expenses outside educational institutions have been excluded to ensure international comparability. Expenditure data for students in private educational institutions are not available for certain countries, and some other countries do provide incomplete data on independent private institutions. Where this is the case, only expenditure on public and government-dependent private institutions has been taken into account. Note that variations in expenditure by educational institutions per student may reflect not only variations in the material resources provided to students (*e.g.* variations in the ratio of students to teaching staff) but also variations in relative salary and price levels.

Expenditure by educational institutions per student in equivalent USD

Data on annual expenditure per student from primary through tertiary education provide a way to track the financial investment in each student. OECD countries as a whole spend, on average, USD 9 195 annually per student enrolled in primary through tertiary education. In 2007, in 11 of 32 OECD and partner countries, spending by educational institutions ranged from USD 8 000 to USD 10 000 per student. It ranged from USD 4 000 per student or less in Chile, Mexico, the Slovak Republic and the partner country Brazil to more than USD 10 000 per student in Austria, Denmark, Norway, Sweden, Switzerland and the United States (Table B1.1a). The drivers of expenditure per student vary among countries (for more details see Indicator B7). Among the six countries with the largest expenditure by educational institutions per student, Switzerland has the highest teachers' salaries at the secondary level after Luxembourg (see Indicator D3), the United States has the highest level of private expenditure at the tertiary level and Austria, Denmark, Norway and Sweden are among the countries with the lowest student-to-teaching staff ratios (see Indicator D2).

Chart B1.2. Annual expenditure by educational institutions per student for all services, by level of education (2007)

In equivalent USD converted using PPPs, based on full-time equivalents



1. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).

Countries are ranked in descending order of expenditure by educational institutions per student in primary education.

Source: OECD. Table B1.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Even if overall spending per student is similar in some OECD countries, the ways in which resources are allocated among the different levels of education vary widely. OECD countries as a whole spend USD 6 756 per student at the primary level, USD 8 153 at the secondary level and USD 16 625 at the tertiary level. At the tertiary level, the totals are affected by high expenditure in a few large OECD countries, most notably Canada and the United States. Spending by educational institutions per student in a typical OECD country (as represented by the simple mean across all OECD countries) amounts to USD 6 741 at the primary level, USD 8 267 at the secondary level and USD 12 907 at the tertiary level (Table B1.1a and Chart B1.2).

These averages mask a broad range of expenditure by educational institutions per student. At the primary and secondary levels, the expenditure by educational institutions varies by a factor of 7 and 10, respectively, ranging in primary education from USD 2 111 or less per student in Mexico and the partner country Brazil to USD 13 985 in Luxembourg and, in secondary education, from USD 1 750 in the partner country Brazil to USD 17 928 in Luxembourg. Expenditure by educational institutions per tertiary student ranges from USD 5 434 in the partner country the Russian Federation to more than USD 20 000 in Canada, Switzerland and the United States (Table B1.1a and Chart B1.2).

These comparisons are based on purchasing power parities (PPPs) for GDP, not on market exchange rates. They therefore reflect the amount of a national currency required to produce the same basket of goods and services in a given country as produced by the USD in the United States.

Expenditure per student on educational core services

Expenditure on core educational services represents on average 81% of total expenditure between primary and tertiary education and exceeds 95% in Mexico, Poland and in the partner country Brazil. In 6 out of the 24 OECD and partner countries for which data are available – Finland, France, Hungary, the Slovak Republic, Sweden and the United Kingdom – annual expenditure on R&D and ancillary services per student from primary through tertiary education accounts for more than 15% of the total annual expenditure per student and can influence the ranking of countries for all services combined. However, this overall picture masks large variations between levels of education.

At the primary and secondary levels, educational expenditure is dominated by spending on instructional services. On average, OECD countries for which data are available spend USD 6 675 on core educational services at the primary, secondary and post-secondary non-tertiary levels. This corresponds to 88% of the total expenditure by educational institutions per student at these levels. In 12 out of the 24 OECD and partner countries for which data are available, ancillary services provided by primary, secondary and post-secondary non-tertiary institutions account for less than 5% of the total expenditure per student. The proportion exceeds 10% of total expenditure per student in Finland, France, Hungary, Korea, the Slovak Republic, Sweden and the United Kingdom.

Greater differences are observed in the proportion of total expenditure by educational institutions per student devoted to core services at the tertiary level, partly because R&D expenditure can account for a significant proportion of educational spending. The OECD countries in which most R&D is performed in tertiary education institutions tend to report higher expenditure

per student than those in which a large proportion of R&D is performed in other public institutions or in industry. Excluding R&D activities and ancillary services, expenditure on core educational services in tertiary institutions is, on average, USD 8 587 per student and ranges from USD 5 000 or less in Poland and the Slovak Republic to more than USD 10 000 in Austria, Canada, the Netherlands, Switzerland, the United States and the partner countries Brazil and Israel (Table B1.2).

On average, expenditure on R&D and ancillary services at the tertiary level represents 30% and 4%, respectively, of all tertiary expenditure by educational institutions per student. In 12 out of 21 OECD and partner countries for which data on R&D and ancillary services are available separately from total expenditure – Australia, Belgium, Canada, Finland, France, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom – expenditure on R&D and ancillary services in tertiary institutions is at least one-third of total tertiary expenditure by educational institutions per student. On a per student basis this can translate into significant amounts: in Australia, Belgium, Canada, Finland, Germany, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States, expenditure for R&D and ancillary services amounts to more than USD 5 000 per student (Table B1.2).

Expenditure by educational institutions per student at different levels of education for all services

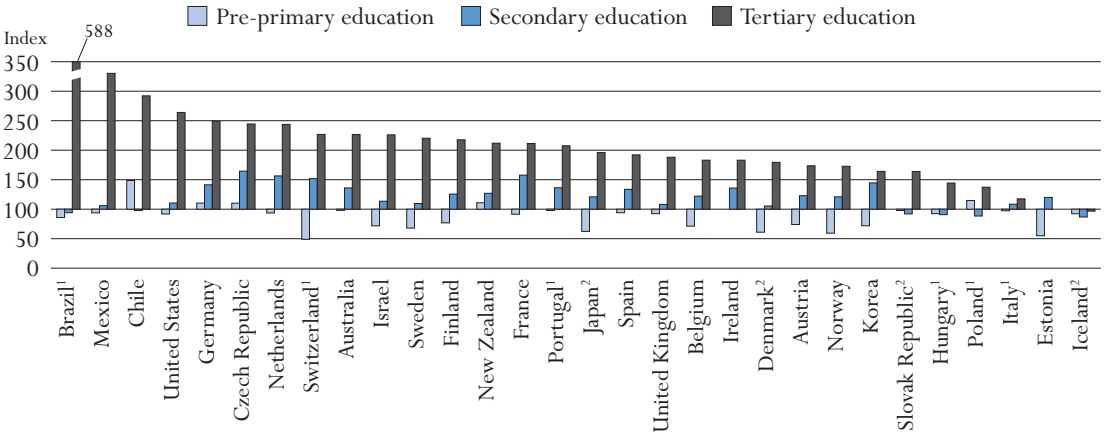
Expenditure by educational institutions per student rises sharply from primary to tertiary education. The amount and pattern of expenditure is largely a reflection of the location and mode of educational provision. Education still essentially takes place in settings with (generally) similar organisation, curriculum, teaching style and management. These shared features have tended to result in similar patterns of unit expenditure from the primary through the post-secondary non-tertiary levels. During the last decade, however, greater use of private funds at the tertiary level has increased the difference between the amount and pattern of expenditure at this level as compared to other levels of education (see Indicator B3).

Comparisons of the distribution of expenditure at different levels of education highlight the relative emphasis placed on these levels as well as the relative costs of provision. Expenditure by educational institutions per student rises with the level of education in almost all OECD and partner countries, but the size of the differentials varies markedly (Table B1.1a and Chart B1.3). At the secondary level, the expenditure is, on average, 1.2 times greater than at the primary level. It exceeds 1.5 in the Czech Republic, France, the Netherlands and Switzerland. In Switzerland, this is mainly due to changes in teachers' salaries. In the other three countries, it is due to an increase in the number of instructional hours for students and a significant decrease in the number of teachers' teaching hours between primary and secondary education, as compared to the OECD average (for more details see Indicators B7, D1, D3 and D4).

OECD countries spend, on average, 1.9 times more by educational institutions per student at the tertiary level than at the primary level, but spending patterns vary widely among countries mainly because education policies vary more at the tertiary level (see Indicator B5). For example, Hungary, Iceland, Italy, Poland and the partner country Estonia spend less than 1.5 times more on a tertiary student than on a primary student, but Mexico and the partner country Brazil spend 3 times or more as much (Table B1.1a and Chart B1.3).

Chart B1.3. Expenditure by educational institutions per student at various levels of education for all services relative to primary education (2007)

Primary education = 100



Note: A ratio of 300 for tertiary education means that expenditure by educational institutions per tertiary student is three times the expenditure by educational institutions per primary student.
A ratio of 50 for pre-primary education means that expenditure by educational institutions per pre-primary student is half the expenditure by educational institutions per primary student.
1. Public institutions only (for Italy, except in tertiary education).
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
Countries are ranked in descending order of expenditure by educational institutions per student in tertiary education relative to primary education.
Source: OECD. Table B1.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310282

Expenditure by educational institutions per student over the theoretical duration of primary and secondary education

OECD countries spend on average USD 94 589 per student over the theoretical duration of primary and secondary studies. Although this theoretical duration is similar – between 12 and 13 years in 31 out of 36 OECD and partner countries – cumulative expenditure by educational institutions per student varies considerably between countries, ranging from less than USD 45 000 in Chile, Mexico, the Slovak Republic and the partner country Brazil to USD 100 000 or more in Austria, Denmark, Iceland, Ireland, Italy, Luxembourg, Norway, Sweden, Switzerland, the United Kingdom and the United States (Table B1.3a and Chart B1.4).

Expenditure by educational institutions per student over the average duration of tertiary studies

Both the typical duration and the intensity of tertiary education vary among OECD countries. Therefore, differences among countries in annual expenditure on educational services per student (shown in Chart B1.2) do not necessarily reflect differences in the total cost of educating the typical tertiary student. Today's students can choose from a range of institutions and enrolment options to find the best fit for their degree objectives, abilities and personal interests. Many enrol on a part-time basis and others combine work and study. Students may attend more than one institution before graduating. These enrolment patterns can affect the interpretation of expenditure by educational institutions per student.

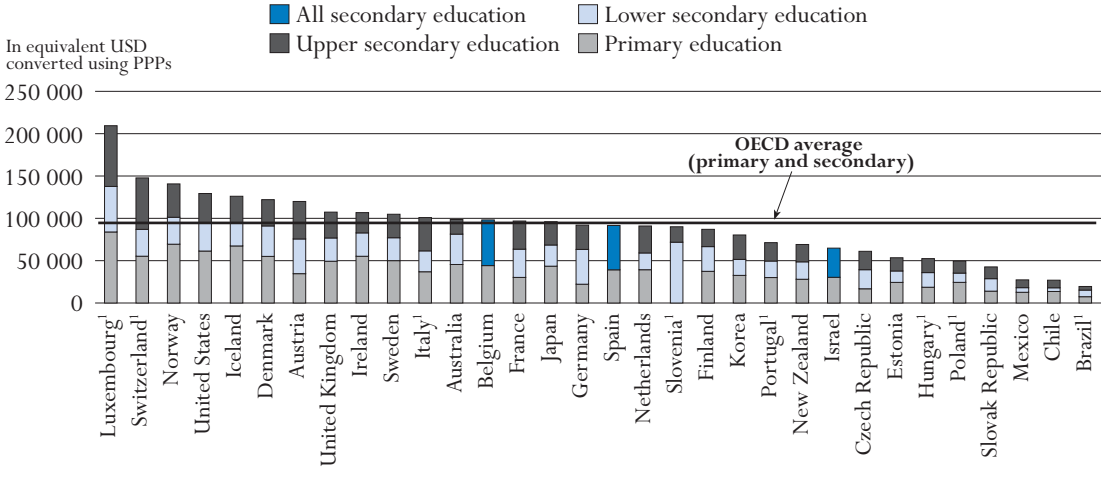
In particular, if the typical duration of tertiary studies is long, comparatively low annual expenditure by educational institutions per student can result in comparatively high overall costs for tertiary education. Chart B1.5 shows the average expenditure per student throughout the course of tertiary studies. The figures account for all students for whom expenditure is incurred, including those who do not finish their studies. Although the calculations are based on a number of simplified assumptions, and therefore should be treated with caution (see Annex 3 at *www.oecd.org/edu/eag2010*), there are some striking differences between annual and aggregate expenditure in the ranking of OECD and partner countries.

For example, annual spending per tertiary student in Ireland is about the same as in France, at USD 12 631 and USD 12 773, respectively (Table B1.1a). But because of differences in the tertiary degree structure (see Indicator A3), the average duration of tertiary studies is over than half a year longer in France than in Ireland (4.0 and 3.2 years, respectively). As a consequence, the cumulative expenditure for each tertiary student is more than USD 10 000 less in Ireland at USD 40 925 compared with USD 51 346 in France (Chart B1.5 and Table B1.3b).

The total cost of tertiary-type A studies in Switzerland (USD 121 850) is more than twice the amount reported by other countries, with the exception of Austria, Finland, France, Germany, Japan, the Netherlands, Spain and Sweden (Table B1.3b). These figures must, of course, be interpreted in light of differences in national degree structures as well as possible differences in the academic level of the qualifications of students leaving university. While trends are similar in tertiary-type B studies, their total cost tends to be much lower than those of tertiary-type A programmes, largely because of their shorter duration.

Chart B1.4. Cumulative expenditure by educational institutions per student over the theoretical duration of primary and secondary studies (2007)

Annual expenditure by educational institutions per student multiplied by the theoretical duration of studies, in equivalent USD converted using PPPs



1. Public institutions only.

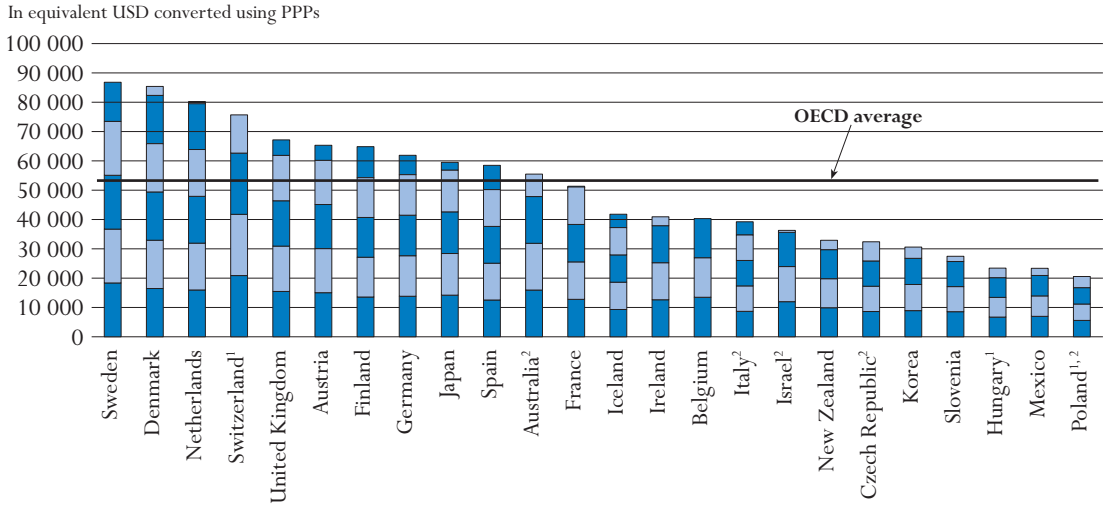
Countries are ranked in descending order of the total expenditure by educational institutions per student over the theoretical duration of primary and secondary studies.

Source: OECD. Table B1.3a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310282

Chart B1.5. Cumulative expenditure by educational institutions per student over the average duration of tertiary studies (2007)

Annual expenditure by educational institutions per student multiplied by the average duration of studies, in equivalent USD converted using PPPs



Note: Each segment of the bar represents the annual expenditure by educational institutions per student. The number of segments represents the average number of years a student remains in tertiary education.
1. Public institutions only.
2. Tertiary-type A and advanced research programmes only.
Countries are ranked in descending order of the total expenditure by educational institutions per student over the average duration of tertiary studies.
Source: OECD. Table B1.3b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310282

Expenditure by educational institutions per student in relation to GDP per capita

Expenditure by educational institutions per student relative to GDP per capita is a unit spending measure that takes OECD countries' relative wealth into account. Since education is universal at lower levels, spending by educational institutions per student at the lower levels relative to GDP per capita can be interpreted as the resources spent on the school-age population relative to a country's ability to pay. At higher levels of education, this measure is affected by a combination of national income, spending and enrolment rates. At the tertiary level, for example, OECD countries may rank relatively high on this measure if a large proportion of their wealth is spent on educating a relatively small number of students.

Expenditure by educational institutions per student averages 20% of GDP per capita at the primary level, 24% at the secondary level and 40% at the tertiary level (Table B1.4). Countries with low levels of expenditure by educational institutions per student may nevertheless show distributions of investment relative to GDP per capita which are similar to those of countries with a high level of spending per student. For example, Korea and Portugal – countries with expenditure by educational institutions per student at the primary, secondary and post-secondary non-tertiary level of education and GDP per capita below the OECD average – spend more per student relative to GDP per capita than the OECD average.

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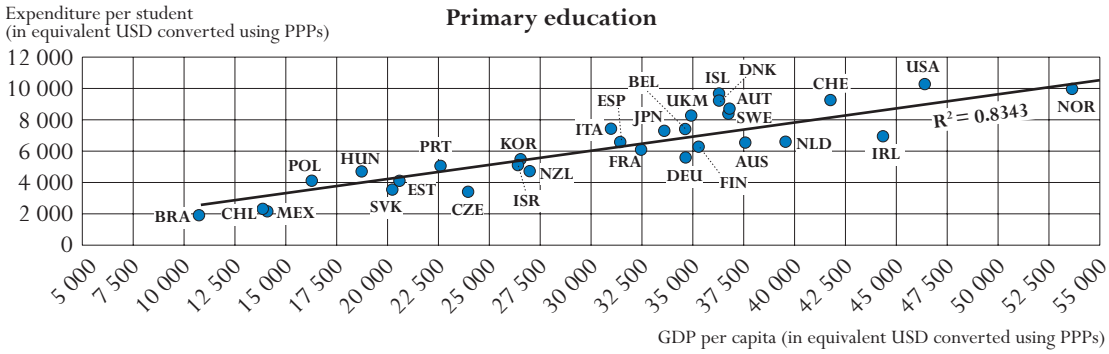
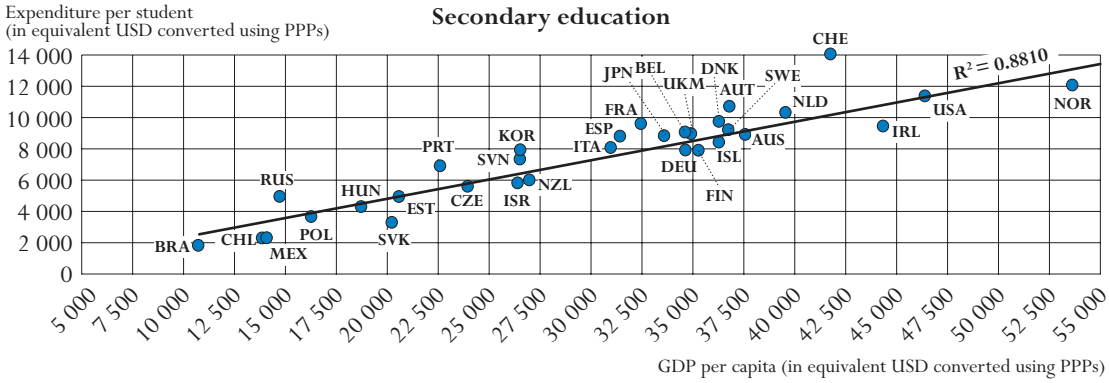
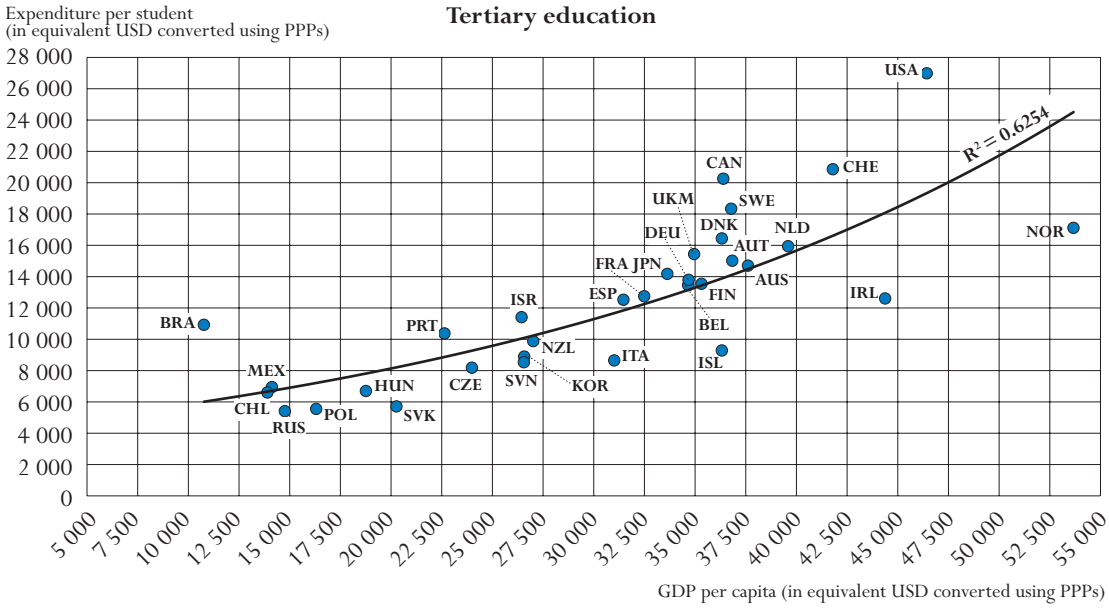
Chart B1.6. Annual expenditure by educational institutions per student relative to GDP per capita (2007)

In equivalent USD converted using PPPs, by level of education







Please refer to the Reader's Guide for the list of country codes used in this chart.
Source: OECD. Tables B1.1a, B1.4 and Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310282

Similarly, Sweden, Switzerland and the United States spend 50% or more in terms of GDP per capita on each tertiary student, among the highest proportions after Brazil. Brazil has the highest proportion, spending the equivalent of 102% of GDP per capita on each tertiary student. This high level of expenditure compared to GDP per capita should be seen in light of the fact that tertiary students represent only 3% of students enrolled in all levels of education combined (Table B1.2 and Table B1.6 available on line).

The relationship between GDP per capita and expenditure by educational institutions per student is a complex one. As one would expect, there is a clear positive relationship between spending by educational institutions per student and GDP per capita at both primary and secondary levels of education: poorer OECD countries tend to spend less per student than richer ones. Although the relationship is generally positive at these levels, there are variations even for countries with similar levels of GDP per capita, especially among those in which it exceeds USD 30 000. Australia and Austria, for example, have similar levels of GDP per capita but spend very different proportions of GDP per capita at the primary and secondary levels. In Australia, the proportions are 17% and 24%, respectively, at the two levels and are near the OECD average (20% and 24%). By contrast, Austria's are 24% and 29%, respectively, and are among the highest (Table B1.4 and Chart B1.6).

There is more variation in spending by educational institutions per student at the tertiary level and the relationship between countries' relative wealth and their expenditure levels is more variable as well. Iceland and Sweden, for example, have similar levels of GDP per capita but very different levels of spending on tertiary education (Table B1.4 and Chart B1.6).

Change in expenditure by educational institutions per student between 1995 and 2007

Expenditure by educational institutions is driven largely by changes in the size of the school-age population and by changes in teachers' salaries. They tend to rise over time in real terms, as teachers' salaries (the main component of costs) rise in line with the salary levels of the country's population. The size of the school-age population influences both enrolment rates and the amount of resources and organisational effort a country must invest in its education system. The larger the size of this population, the greater the potential demand for educational services. Table B1.5 and Chart B1.7 show the effects of changes in enrolments and total expenditure between 1995, 2000 and 2007, in indices and at constant prices.

Expenditure by educational institutions per primary, secondary and post-secondary non-tertiary student increased in every country, on average, by 43% between 1995 and 2007 during a period of relatively stable student enrolment at these levels. The rate of increase was quite similar over the first and second halves of this time period; only the Czech Republic, Norway and Switzerland showed a decrease between 1995 and 2000, followed by an increase between 2000 and 2007 (Table B1.5).

Between 2000 and 2007, in 21 out of the 30 OECD and partner countries for which data are available, expenditure by educational institutions per primary, secondary and post-secondary non-tertiary student increased by at least 10%. The increase exceeded 40% in the Czech Republic, Hungary, Ireland, Korea, Poland, the Slovak Republic, the United Kingdom and the partner countries Brazil and Estonia. In Belgium, France, Germany, Italy, Switzerland and the partner country Israel (Table B1.5 and Chart B1.7), this expenditure by educational institutions per student increased only by 5% or less between 2000 and 2007.

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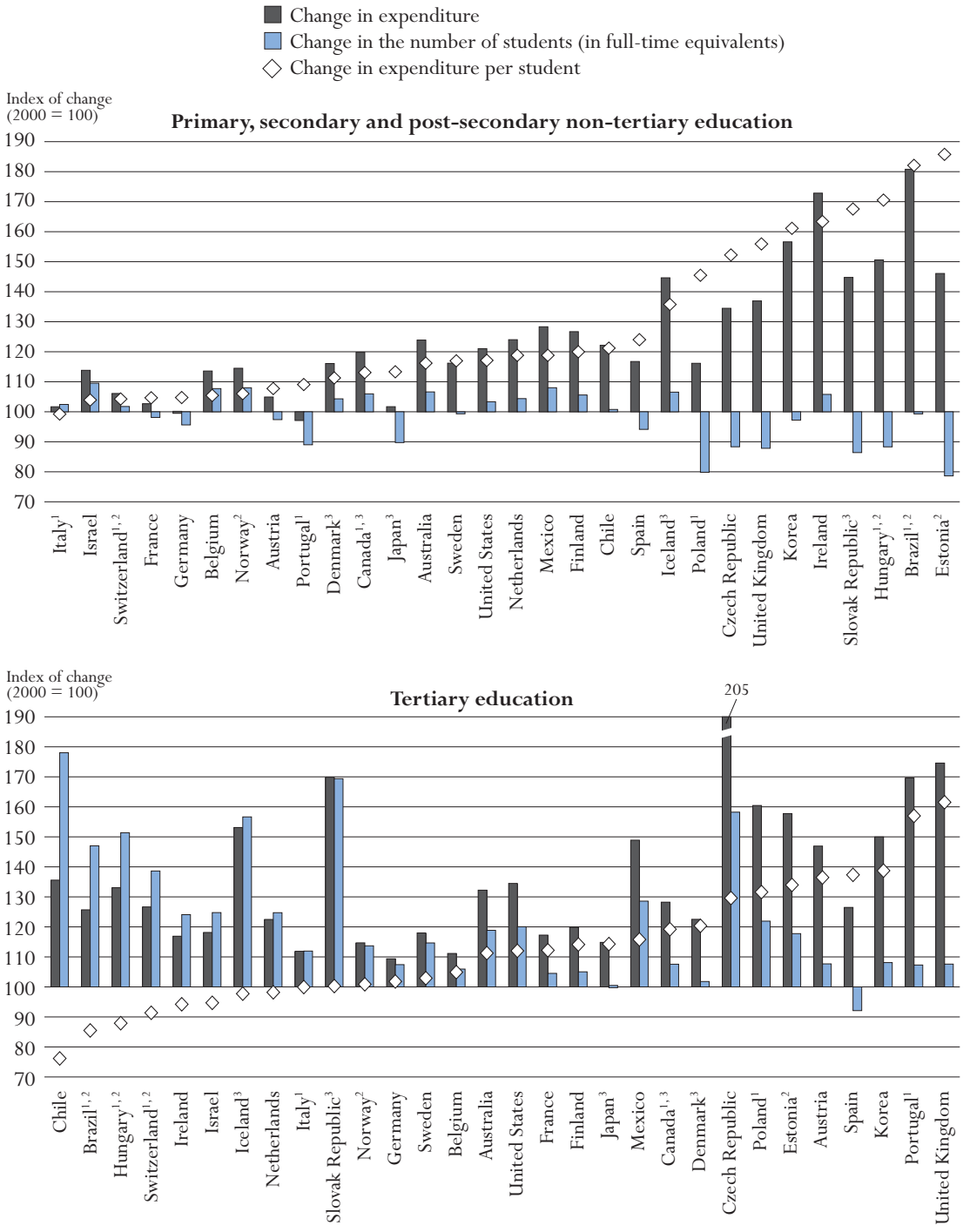
Chart B1.7. Changes in the number of students and changes in expenditure by educational institutions per student, by level of education (2000, 2007)

Index of change between 2000 and 2007 (2000 = 100, 2007 constant prices)



1. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).
2. Public expenditure only.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.

Countries are ranked in ascending order of change in expenditure by educational institutions per student.

Source: OECD. Table B1.5. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310282

Changes in enrolments do not seem to have been the main factor behind changes in expenditure by educational institutions per primary, secondary and post-secondary non-tertiary student in the majority of OECD and partner countries. However, in the Czech Republic, Hungary, Japan, Poland, Portugal, the Slovak Republic, Spain, the United Kingdom and the partner country Estonia, a decrease in enrolments of more than 5% coincided with significant increases in spending by educational institutions per student between 2000 and 2007. In Japan and Portugal the decline in enrolments was concurrent with a decrease or a slight rise in expenditure by educational institutions on primary, secondary and post-secondary non-tertiary education. In the other countries, a decline in enrolments was accompanied by a sharp increase in spending (Table B1.5 and Chart B1.7).

The pattern is different at the tertiary level. Spending per student fell in some cases between 1995 and 2007, as expenditure did not keep up with expanding student numbers. On average among OECD countries, expenditure by educational institutions per tertiary student remained stable from 1995 to 2000 but then increased by 14% from 2000 to 2007, partly as governments invested massively in response to the expansion of tertiary education (see Indicators B3 and B4). The Czech Republic, Iceland, Korea, Poland, Portugal, the Slovak Republic, the United Kingdom and the partner country Estonia followed this pattern and increased expenditure by educational institutions by 50% or more between 2000 and 2007. However, the increase in expenditure per student between 2000 and 2007 did not completely counterbalance the decrease between 1995 and 2000 in the Czech Republic and the Slovak Republic. Only in Hungary and the partner country Israel was there a decrease in expenditure by educational institutions per tertiary student in both the first and second half of this time period (Table B1.5).

Between 2000 and 2007, of the 30 OECD and partner countries for which data are available, Chile, Hungary, Iceland, Ireland, the Netherlands, Switzerland and the partner countries Brazil and Israel recorded a decrease in expenditure on tertiary education per student. In all of these countries, the decline was mainly the result of a rapid increase (10% or more) in the number of tertiary students (Chart B1.7). However, large increases in the number of tertiary students do not necessary lead to decrease in expenditure per student. Five of the thirteen OECD and partner countries in which the number of students enrolled in tertiary education increased by 20% or more between 2000 and 2007 (the Czech Republic, Mexico, Poland, the Slovak Republic and the United States) increased their expenditure on tertiary education over the period by at least the same proportion. The others – Chile, Hungary, Iceland, Ireland, the Netherlands, Switzerland and the partner countries Brazil and Israel – did not. Spain was the only country in which the number of tertiary students decreased between 2000 and 2007 (Table B1.5 and Chart B1.7).

Definitions and methodologies

Data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Expenditure by educational institutions per student at a particular level of education is calculated by dividing the total expenditure by educational institutions at that level by the corresponding full-time equivalent enrolment. Only educational institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currency is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. The PPP exchange rate is used because the market

exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (see Annex 2 for further details).

The OECD average is calculated as the simple average over all OECD countries for which data are available. The OECD total reflects the value of the indicator if the OECD region is considered as a whole (see the Reader's Guide for details).

Table B1.5 shows the changes in expenditure by educational institutions per student between the financial years 1995, 2000 and 2007. OECD countries were asked to collect the 1995 and 2000 data according to the definitions and the coverage of UOE 2009 data collection. All expenditure data, as well as the GDP for 1995 and 2000, are adjusted to 2007 prices using the GDP price deflator.

Expenditure by educational institutions per student relative to GDP per capita is calculated by expressing expenditure by educational institutions per student in units of national currency as a percentage of GDP per capita, also in national currency. In cases where the educational expenditure data and the GDP data pertain to different reference periods, the expenditure data are adjusted to the same reference period as the GDP data, using inflation rates for the OECD country in question (see Annex 2).

Cumulative expenditure over the average duration of tertiary studies (Table B1.3b) is calculated by multiplying current annual expenditure by the typical duration of tertiary studies. The methodology used to estimate the typical duration of tertiary studies is described in Annex 3 (*www.oecd.org/edu/eag2010*). For estimates of the duration of tertiary education, data are based on a special survey carried out in OECD countries in 2009.

The ranking of OECD countries by annual expenditure on educational services per student is affected by differences in how countries define full-time, part-time and full-time equivalent enrolment. Some OECD countries count every participant at the tertiary level as a full-time student while others determine a student's intensity of participation by the credits which he/she obtains for successful completion of specific course units during a specified reference period. OECD countries that can accurately account for part-time enrolment have higher apparent expenditure by educational institutions per full-time equivalent student than OECD countries that cannot differentiate among different modes of student attendance.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310282

- ***Table B1.1b. Annual expenditure by educational institutions per student for core services (2007)***
- ***Table B1.6. Distribution of expenditure (as a percentage) by educational institutions compared to the number of students enrolled at each level of education (2007)***
- ***Table B1.7. Annual expenditure by educational institutions per student for all services, by type of programme (2007)***

B1

Table B1.1a.

Annual expenditure by educational institutions per student for all services (2007)

In equivalent USD converted using PPPs for GDP, by level of education, based on full-time equivalents

		Pre-primary education (for children 3 years and older)	Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education (including R&D activities)			All tertiary education excluding R&D activities	Primary to tertiary education
				Lower secondary education	Upper secondary education	All secondary education		Tertiary-type B education	Tertiary-type A & advanced research programmes	All tertiary education		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	6 507	6 498	8 967	8 639	8 840	6 660	8 052	15 944	14 726	9 214	**8 786**
	Austria	6 409	8 664	10 249	11 068	10 641	6 518	12 364	15 174	15 039	10 552	**10 974**
	Belgium	5 247	7 363	x(5)	x(5)	8 992	x(5)	x(9)	x(9)	13 482	8 786	**9 162**
	Canada[1, 2]	x(5)	x(5)	x(5)	x(5)	8 045	x(7)	15 091	24 424	20 278	14 731	**m**
	Chile[3]	3 371	2 268	2 190	2 239	2 222	a	3 360	8 746	6 626	6 438	**3 088**
	Czech Republic	3 700	3 359	5 635	5 428	5 527	1 939	3 438	8 621	8 209	6 824	**5 426**
	Denmark	5 594	9 176	8 998	10 342	9 675	x(4,9)	x(9)	x(9)	16 466	m	**10 759**
	Finland	4 789	6 234	9 730	6 806	7 829	x(5)	n	13 566	13 566	8 178	**8 440**
	France	5 527	6 044	8 339	11 082	9 532	m	10 632	13 467	12 773	9 001	**8 932**
	Germany	6 119	5 548	6 851	9 557	7 841	8 600	7 394	14 852	13 823	8 534	**8 270**
	Greece	m	m	m	m	m	m	m	m	m	m	**m**
	Hungary[2]	4 304	4 656	4 321	4 131	4 225	4 782	3 714	6 869	6 721	5 365	**4 811**
	Iceland	8 884	9 629	9 147	7 807	8 349	x(5)	x(9)	x(9)	9 309	m	**9 015**
	Ireland	m	6 901	9 207	9 575	9 375	6 570	x(9)	x(9)	12 631	8 907	**8 628**
	Italy[2]	7 191	7 383	8 222	7 864	8 004	m	7 772	8 678	8 673	5 447	**7 948**
	Japan	4 518	7 247	8 346	9 159	8 760	x(4,9)	9 139	15 822	14 201	m	**9 312**
	Korea	3 909	5 437	6 287	9 620	7 860	a	5 279	10 115	8 920	7 796	**7 325**
	Luxembourg[2]	x(2)	13 985	17 928	17 928	17 928	m	m	m	m	m	**m**
	Mexico	1 979	2 111	1 814	3 070	2 236	a	x(9)	x(9)	6 971	5 862	**2 598**
	Netherlands	6 130	6 552	9 902	10 616	10 248	10 881	n	15 969	15 969	10 421	**9 883**
	New Zealand	5 185	4 675	5 146	6 828	5 933	6 794	7 322	10 666	9 905	8 539	**6 226**
	Norway	5 886	9 922	10 603	13 132	11 997	x(5)	x(9)	x(9)	17 140	10 071	**11 967**
	Poland[2]	4 658	4 063	3 643	3 543	3 590	4 461	4 742	5 587	5 576	4 637	**4 134**
	Portugal[2]	5 006	5 011	6 497	7 243	6 833	m	x(9)	x(9)	10 398	7 428	**6 677**
	Slovak Republic	3 419	3 499	2 946	3 475	3 219	x(4)	x(4)	5 736	5 736	4 922	**3 694**
	Spain	6 138	6 533	8 155	9 867	8 730	a	10 650	12 940	12 548	8 954	**8 618**
	Sweden	5 666	8 338	9 020	9 247	9 143	6 467	6 005	19 013	18 361	9 402	**10 262**
	Switzerland[2]	4 506	9 211	10 574	17 362	13 982	7 506	3 889	22 346	20 883	10 977	**13 031**
	Turkey	m	m	a	m	m	a	m	m	m	m	**m**
	United Kingdom	7 598	8 222	9 166	8 714	8 892	x(4)	x(9)	x(9)	15 463	9 023	**9 600**
	United States	9 394	10 229	10 862	11 788	11 301	m	x(9)	x(9)	27 010	24 230	**14 269**
	OECD average	*5 447*	*6 741*	*7 598*	*8 746*	*8 267*	*4 449*	*~*	*~*	*12 907*	*8 970*	*8 216*
	OECD total	*5 838*	*6 756*	*~*	*~*	*8 153*	*~*	*~*	*~*	*16 625*	*13 896*	*9 195*
	EU19 average	*5 468*	*6 752*	*8 165*	*8 617*	*8 346*	*5 580*	*~*	*~*	*12 084*	*7 899*	*8 013*
Partner countries	Brazil[2]	1 599	1 862	1 947	1 427	1 750	a	x(9)	x(9)	10 950	10 326	**2 080**
	China	882	778	986	1 549	1 153	m	3 222	5 138	4 380	m	**1 404**
	Estonia	2 232	4 058	4 495	5 205	4 869	6 613	4 365	5 653	m	5 214	**4 783**
	India	m	m	m	m	m	m	m	m	m	m	**m**
	Indonesia	56	534	485	477	482	a	m	635	m	m	**m**
	Israel	3 631	5 060	x(5)	x(5)	5 741	4 910	9 092	11 977	11 435	m	**6 344**
	Russian Federation[2]	m	x(5)	x(5)	x(5)	4 878	x(5)	4 402	5 753	5 434	5 201	**5 043**
	Slovenia	8 464	x(3)	7 981	6 072	7 267	x(4)	x(9)	x(9)	8 559	7 037	**7 560**

1. Year of reference 2006.
2. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).
3. Year of reference 2008.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: *China Educational Finance Statistics Yearbook 2008*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310282

Table B1.2.

Annual expenditure per student by educational institutions on core services, ancillary services and R&D (2007)

In equivalent USD converted using PPPs for GDP, by level of education and type of service, based on full-time equivalents

		Primary, secondary and post-secondary non-tertiary education			Tertiary education				Primary to tertiary education		
		Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Total	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	R&D	Total	Educational core services	Ancillary services (transport, meals, housing provided by institutions) and R&D	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	7 422	168	**7 590**	8 604	610	5 512	**14 726**	7 620	1 166	**8 786**
	Austria	9 519	439	**9 959**	10 439	114	4 487	**15 039**	9 703	1 271	**10 974**
	Belgium	8 079	254	**8 333**	8 439	348	4 696	**13 482**	8 137	1 026	**9 162**
	Canada[1, 2, 3]	7 609	436	**8 045**	13 572	1 159	5 547	**20 278**	m	m	**m**
	Chile[4]	2 068	177	**2 245**	6 438	x(4)	189	**6 626**	2 909	179	**3 088**
	Czech Republic	4 334	378	**4 712**	6 738	86	1 386	**8 209**	4 825	601	**5 426**
	Denmark[1]	9 448	a	**9 448**	x(7)	a	x(7)	**16 466**	x(10)	x(10)	**10 759**
	Finland	6 430	786	**7 216**	8 178	n	5 388	**13 566**	6 767	1 673	**8 440**
	France	6 988	1 082	**8 070**	8 252	749	3 771	**12 773**	7 218	1 714	**8 932**
	Germany	7 072	171	**7 243**	7 852	682	5 288	**13 823**	7 193	1 077	**8 270**
	Greece	m	m	**m**	m	m	m	**m**	m	m	**m**
	Hungary[3]	3 751	620	**4 371**	5 037	328	1 356	**6 721**	3 992	819	**4 811**
	Iceland[1]	x(3)	x(3)	**8 949**	x(7)	x(7)	x(7)	**9 309**	x(10)	x(10)	**9 015**
	Ireland	7 589	202	**7 791**	8 907	x(7)	3 724	**12 631**	7 817	811	**8 628**
	Italy[3, 5]	7 464	307	**7 771**	5 221	227	3 226	**8 673**	6 954	994	**7 948**
	Japan[1]	x(3)	x(3)	**8 012**	x(7)	x(7)	x(7)	**14 201**	x(10)	x(10)	**9 312**
	Korea	5 943	720	**6 663**	7 751	45	1 124	**8 920**	6 473	851	**7 325**
	Luxembourg[1, 3]	x(3)	x(3)	**15 579**	m	m	m	**m**	m	m	**m**
	Mexico	x(3)	x(3)	**2 165**	5 862	m	1 109	**6 971**	2 498	100	**2 598**
	Netherlands	8 571	n	**8 571**	10 421	n	5 548	**15 969**	8 899	984	**9 883**
	New Zealand	x(3)	x(3)	**5 454**	8 539	x(4)	1 366	**9 905**	x(10)	x(10)	**6 226**
	Norway	x(3)	x(3)	**10 855**	9 982	89	7 069	**17 140**	x(10)	x(10)	**11 967**
	Poland[3]	3 784	20	**3 804**	4 637	n	938	**5 576**	3 943	191	**4 134**
	Portugal[3]	5 766	132	**5 898**	7 428	x(4)	2 970	**10 398**	6 053	623	**6 677**
	Slovak Republic[1]	2 837	459	**3 296**	4 315	608	814	**5 736**	3 078	616	**3 694**
	Spain	7 326	346	**7 671**	8 728	226	3 594	**12 548**	7 598	1 020	**8 618**
	Sweden	7 878	895	**8 773**	9 402	n	8 959	**18 361**	8 114	2 148	**10 262**
	Switzerland[3]	x(3)	x(3)	**11 702**	10 977	x(4)	9 906	**20 883**	x(10)	x(10)	**13 031**
	Turkey	m	m	**m**	m	m	m	**m**	m	m	**m**
	United Kingdom	7 032	1 591	**8 622**	7 757	1 266	6 441	**15 463**	7 135	2 465	**9 600**
	United States	9 932	836	**10 768**	21 199	3 031	2 780	**27 010**	12 361	1 908	**14 269**
	OECD average	*6 675*	*455*	*7 572*	*8 587*	*478*	*3 888*	*12 907*	*6 633*	*1 059*	*8 216*
	EU19 average	*6 698*	*452*	*7 618*	*7 609*	*309*	*3 912*	*12 084*	*6 714*	*1 127*	*8 013*
Partner countries	Brazil[3]	x(3)	x(3)	**1 796**	10 326	x(4)	623	**10 950**	2 060	19	**2 080**
	China	m	m	**m**	m	m	m	**m**	m	m	**m**
	Estonia	x(3)	x(3)	**4 637**	5 214	x(4)	m	**5 214**	x(10)	x(10)	**4 783**
	India	m	m	**m**	m	m	m	**m**	m	m	**m**
	Indonesia	469	45	**514**	m	m	m	**m**	m	m	**m**
	Israel	5 058	288	**5 345**	10 077	1 358	n	**11 435**	5 881	463	**6 344**
	Russian Federation[3]	x(3)	x(3)	**4 878**	x(7)	x(7)	233	**5 434**	x(10)	x(10)	**5 043**
	Slovenia	6 947	320	**7 267**	7 011	26	1 522	**8 559**	6 961	599	**7 560**

1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Year of reference 2006.
3. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).
4. Year of reference 2008.
5. Exclude post-secondary non-tertiary education.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310282

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Table B1.3a.

Cumulative expenditure by educational institutions per student for all services over the theoretical duration of primary and secondary studies (2007)

In equivalent USD converted using PPPs for GDP, by level of education

		Average theoretical duration of primary and secondary studies (in years)				Cumulative expenditure per student over the theoretical duration of primary and secondary studies (in USD)				
		Primary education	Lower secondary education	Upper secondary education	Total primary and secondary education	Primary education	Lower secondary education	Upper secondary education	All secondary education	Total primary and secondary education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	7.0	4.0	2.0	**13.0**	45 485	35 868	17 277	53 146	**98 630**
	Austria	4.0	4.0	4.0	**12.0**	34 655	40 996	44 274	85 270	**119 925**
	Belgium	6.0	2.0	4.0	**12.0**	44 178	x(8)	x(8)	53 950	**98 128**
	Canada[1]	6.0	2.0	4.0	**12.0**	x(9)	x(9)	x(9)	x(9)	**96 541**
	Chile[2]	6.0	2.0	4.0	**12.0**	13 608	4 380	8 955	13 335	**26 943**
	Czech Republic	5.0	4.0	4.0	**13.0**	16 793	22 539	21 712	44 251	**61 045**
	Denmark	6.0	4.0	3.0	**13.0**	55 055	35 991	31 025	67 015	**122 070**
	Finland	6.0	3.0	3.0	**12.0**	37 404	29 191	20 418	49 609	**87 013**
	France	5.0	4.0	3.0	**12.0**	30 221	33 356	33 246	66 602	**96 823**
	Germany	4.0	6.0	3.0	**13.0**	22 193	41 103	28 670	69 774	**91 966**
	Greece	6.0	3.0	3.0	**12.0**	m	m	m	m	**m**
	Hungary[3]	4.0	4.0	4.0	**12.0**	18 624	17 283	16 525	33 808	**52 433**
	Iceland	7.0	3.0	4.0	**14.0**	67 405	27 442	31 229	58 671	**126 076**
	Ireland	8.0	3.0	2.5	**13.5**	55 205	27 620	23 938	51 558	**106 763**
	Italy[3]	5.0	3.0	5.0	**13.0**	36 915	24 667	39 320	63 988	**100 903**
	Japan	6.0	3.0	3.0	**12.0**	43 484	25 039	27 476	52 515	**95 999**
	Korea	6.0	3.0	3.0	**12.0**	32 623	18 861	28 861	47 722	**80 345**
	Luxembourg[3]	6.0	3.0	4.0	**13.0**	83 912	53 785	71 710	125 495	**209 407**
	Mexico	6.0	3.0	3.0	**12.0**	12 663	5 442	9 209	14 651	**27 314**
	Netherlands	6.0	2.0	3.0	**11.0**	39 313	19 803	31 848	51 651	**90 964**
	New Zealand	6.0	4.0	3.0	**13.0**	28 049	20 585	20 484	41 069	**69 118**
	Norway	7.0	3.0	3.0	**13.0**	69 455	31 810	39 395	71 205	**140 660**
	Poland[3]	6.0	3.0	4.0	**13.0**	24 377	10 929	14 174	25 103	**49 479**
	Portugal[3]	6.0	3.0	3.0	**12.0**	30 068	19 492	21 730	41 222	**71 289**
	Slovak Republic	4.0	5.0	4.0	**13.0**	13 996	14 729	13 901	28 630	**42 626**
	Spain	6.0	4.0	2.0	**12.0**	39 199	x(8)	x(8)	52 380	**91 579**
	Sweden	6.0	3.0	3.0	**12.0**	50 027	27 060	27 740	54 800	**104 826**
	Switzerland[3]	6.0	3.0	3.5	**12.5**	55 269	31 722	60 766	92 488	**147 756**
	Turkey[3]	8.0	a	3.0	**11.0**	m	a	m	m	**m**
	United Kingdom	6.0	3.0	3.5	**12.5**	49 333	27 499	30 499	57 796	**107 129**
	United States	6.0	3.0	3.0	**12.0**	61 377	32 587	35 363	67 950	**129 327**
	OECD average	*5.9*	*3.2*	*3.3*	*12.4*	*39 674*	*~*	*~*	*54 845*	*94 589*
Partner countries	Brazil[3]	4.0	4.0	3.0	**11.0**	7 447	7 788	4 281	12 069	**19 516**
	Estonia	6.0	3.0	3.0	**12.0**	24 348	13 484	15 615	29 099	**53 448**
	Israel	6.0	3.0	3.0	**12.0**	30 359	x(8)	x(8)	34 444	**64 803**
	Russian Federation[3]	4.0	5.0	2.0	**11.0**	x(9)	x(9)	x(9)	x(9)	**53 658**
	Slovenia[3]	6.0	3.0	3.0	**12.0**	x(6)	71 826	18 217	90 042	**90 042**

1. Year of reference 2006.
2. Year of reference 2008.
3. Public institutions only.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B1.3b.

Cumulative expenditure by educational institutions per student for all services over the average duration of tertiary studies (2007)

In equivalent USD converted using PPPS for GDP, by type of programme

		Method[1]	Average duration of tertiary studies (in years)			Cumulative expenditure per student over the average duration of tertiary studies (in USD)		
			Tertiary-type B education	Tertiary-type A & advanced research programmes	All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education
			(1)	(2)	(3)	(4)	(5)	(6)
OECD countries	Australia	CM	m	3.48	**m**	m	55 483	**m**
	Austria	AF	1.89	4.80	**4.34**	23 407	72 816	**65 316**
	Belgium	CM	2.41	3.67	**2.99**	x(6)	x(6)	**40 312**
	Canada		m	m	**m**	m	m	**m**
	Chile		m	m	**m**	m	m	**m**
	Czech Republic[2]	CM	m	3.76	**m**	m	32 404	**m**
	Denmark	AF	2.51	5.97	**5.19**	x(6)	x(6)	**85 390**
	Finland	CM	a	4.78	**4.78**	a	64 846	**64 846**
	France[2]	CM	3.00	4.74	**4.02**	31 895	63 835	**51 346**
	Germany	CM	2.50	5.16	**4.48**	18 503	76 651	**61 896**
	Greece		m	m	**m**	m	m	**m**
	Hungary[3]	AF	1.84	3.74	**3.48**	6 817	25 692	**23 419**
	Iceland	CM	x(3)	x(3)	**4.49**	x(6)	x(6)	**41 799**
	Ireland	CM	2.21	4.02	**3.24**	x(6)	x(6)	**40 925**
	Italy	AF	m	4.52	**m**	m	39 226	**m**
	Japan	CM	2.09	4.57	**4.19**	19 130	72 303	**59 500**
	Korea	CM	2.07	4.22	**3.43**	10 928	42 685	**30 596**
	Luxembourg		m	m	**m**	m	m	**m**
	Mexico	AF	1.72	3.49	**3.35**	x(6)	x(6)	**23 354**
	Netherlands	CM	a	5.02	**5.02**	a	80 162	**80 162**
	New Zealand	CM	2.22	3.90	**3.32**	16 284	41 622	**32 914**
	Norway		m	m	**m**	m	m	**m**
	Poland[3]	CM	m	3.68	**m**	m	20 561	**m**
	Portugal		m	m	**m**	m	m	**m**
	Slovak Republic	AF	2.47	3.90	**3.82**	m	22 370	**22 370**
	Spain	CM	2.15	5.54	**4.66**	22 897	71 690	**58 474**
	Sweden	CM	2.20	4.89	**4.73**	13 211	92 923	**86 812**
	Switzerland[3]	CM	2.19	5.45	**3.62**	8 504	121 850	**75 686**
	Turkey[3]	CM	2.73	2.37	**2.65**	m	m	**m**
	United Kingdom[2]	CM	3.52	5.86	**4.34**	x(6)	x(6)	**67 153**
	United States		m	m	**m**	m	m	**m**
	OECD average		*2.09*	*4.41*	*4.01*	~	~	*53 277*
Partner countries	Brazil		m	m	**m**	m	m	**m**
	Estonia		m	m	**m**	m	m	**m**
	Israel	CM	m	3.03	**m**	m	36 291	**m**
	Russian Federation		m	m	**m**	m	m	**m**
	Slovenia	AF	2.63	3.64	**3.21**	x(6)	x(6)	**27 458**

1. Either the Chain Method (CM) or an Approximation Formula (AF) was used to estimate the duration of tertiary studies.
2. Average duration of tertiary studies is estimated based on national data.
3. Public institutions only.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing date.

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Table B1.4.

Annual expenditure by educational institutions per student for all services relative to GDP per capita (2007)

By level of education, based on full-time equivalents

		Pre-primary education (for children 3 years and older)	Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education (including R&D activities)			All tertiary education excluding R&D activities	Primary to tertiary education
				Lower secondary education	Upper secondary education	All secondary education		Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	17	17	24	23	24	18	21	42	39	24	**23**
	Austria	17	24	28	30	29	18	34	41	41	29	**30**
	Belgium	15	21	x(5)	x(5)	26	x(5)	x(9)	x(9)	39	25	**26**
	Canada[1, 2]	x(5)	x(5)	x(5)	x(5)	22	x(7)	41	67	56	40	**m**
	Chile[3]	24	16	16	16	16	a	24	62	47	m	**22**
	Czech Republic	15	14	23	23	23	8	14	36	34	28	**23**
	Denmark	15	25	25	28	27	x(4, 9)	x(9)	x(9)	45	m	**30**
	Finland	14	18	28	19	22	x(5)	n	38	38	23	**24**
	France	17	19	26	34	29	m	33	41	39	28	**27**
	Germany	18	16	20	28	23	25	21	43	40	25	**24**
	Greece	m	m	m	m	m	m	m	m	m	m	**m**
	Hungary[2]	23	25	23	22	23	25	20	37	36	28	**26**
	Iceland	24	27	25	21	23	x(5)	x(9)	x(9)	26	m	**25**
	Ireland	m	16	21	22	21	15	x(9)	x(9)	28	20	**19**
	Italy[2]	23	24	27	25	26	m	25	28	28	18	**26**
	Japan	13	22	25	27	26	x(4, 9)	27	47	42	m	**28**
	Korea	15	20	24	36	30	a	20	38	34	29	**28**
	Luxembourg[2]	x(2)	17	22	22	22	x(5)	m	m	m	m	**m**
	Mexico	14	15	13	22	16	a	x(9)	x(9)	49	41	**18**
	Netherlands	15	17	25	27	26	27	a	40	40	26	**25**
	New Zealand	19	17	19	25	22	25	27	39	37	32	**23**
	Norway	11	18	20	24	22	x(5)	x(9)	x(9)	32	19	**22**
	Poland[2]	29	25	22	22	22	27	29	34	34	28	**25**
	Portugal[2]	22	22	29	32	30	m	x(9)	x(9)	46	33	**29**
	Slovak Republic	17	17	15	17	16	x(4)	x(4)	28	28	24	**18**
	Spain	20	21	26	31	28	a	34	41	40	28	**27**
	Sweden	15	23	25	25	25	18	16	52	50	26	**28**
	Switzerland[2]	11	22	25	42	33	18	9	53	50	26	**31**
	Turkey	m	m	a	m	m	a	m	m	m	m	**m**
	United Kingdom	22	24	26	25	25	x(4)	x(9)	x(9)	44	26	**27**
	United States	20	22	23	25	24	m	x(9)	x(9)	58	52	**31**
	OECD average	*18*	*20*	*22*	*26*	*24*	*14*	*22*	*43*	*40*	*28*	*25*
	EU19 average	*18*	*19*	*21*	*25*	*24*	*10*	*23*	*41*	*38*	*27*	*24*
Partner countries	Brazil[2]	15	17	18	13	16	a	x(9)	x(9)	102	96	**19**
	China	17	15	18	29	22	m	60	96	82	m	**26**
	Estonia	11	20	22	25	24	32	21	27	m	25	**23**
	India	m	m	m	m	m	m	m	m	m	m	**m**
	Indonesia	2	14	13	13	13	a	m	17	m	m	**m**
	Israel	14	19	x(5)	x(5)	22	19	34	45	43	m	**24**
	Russian Federation[2]	m	x(5)	x(5)	x(5)	33	x(5)	30	39	37	35	**34**
	Slovenia	32	x(3)	30	23	27	x(4)	x(9)	x(9)	32	26	**28**

1. Year of reference 2006.
2. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).
3. Year of reference 2008.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: *China Educational Finance Statistics Yearbook 2008*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B1.5.

Change in expenditure by educational institutions for all services per student relative to different factors, by level of education (1995, 2000, 2007)

Index of change between 1995, 2000 and 2007 (GDP deflator 2000 = 100, constant prices)

		Primary, secondary and post-secondary non-tertiary education						Tertiary education					
		Change in expenditure (2000 = 100)		Change in the number of students (2000 = 100)		Change in expenditure per student (2000 = 100)		Change in expenditure (2000 = 100)		Change in the number of students (2000 = 100)		Change in expenditure per student (2000 = 100)	
		1995	2007	1995	2007	1995	2007	1995	2007	1995	2007	1995	2007
OECD countries	Australia	81	124	94	107	**85**	**116**	90	132	83	119	**109**	**111**
	Austria	93	105	m	97	**m**	**108**	97	147	91	108	**107**	**136**
	Belgium	m	114	m	108	**m**	**105**	m	111	m	106	**m**	**105**
	Canada[1, 2, 3]	106	120	m	106	**m**	**113**	75	128	m	108	**m**	**119**
	Chile[4]	54	122	88	101	**62**	**121**	61	136	76	178	**80**	**76**
	Czech Republic	116	134	107	88	**109**	**152**	101	205	64	158	**159**	**130**
	Denmark[1]	84	116	96	104	**87**	**111**	91	123	96	102	**95**	**120**
	Finland	89	127	93	106	**95**	**120**	90	120	89	105	**101**	**114**
	France	90	103	m	98	**m**	**105**	91	117	m	105	**m**	**112**
	Germany	94	100	97	96	**97**	**105**	95	109	104	107	**91**	**102**
	Greece[1]	64	m	107	m	**60**	**m**	66	m	68	m	**97**	**m**
	Hungary[3, 5]	98	151	105	88	**93**	**171**	77	133	58	151	**133**	**88**
	Iceland[1]	m	145	99	107	**m**	**136**	m	153	79	157	**m**	**98**
	Ireland	82	173	105	106	**78**	**163**	57	117	86	124	**66**	**94**
	Italy[3]	101	102	102	102	**99**	**99**	79	112	99	112	**80**	**100**
	Japan[1]	98	102	113	90	**86**	**113**	88	115	99	100	**88**	**114**
	Korea	m	157	107	97	**m**	**161**	m	150	68	107	**m**	**140**
	Luxembourg	m	m	m	m	**m**	**m**	m	m	m	m	**m**	**m**
	Mexico	81	128	93	108	**87**	**119**	77	149	77	129	**101**	**116**
	Netherlands	82	124	97	104	**84**	**119**	95	122	96	125	**99**	**98**
	New Zealand[5]	71	100	m	m	**m**	**m**	104	143	m	m	**m**	**m**
	Norway[5]	94	114	89	108	**107**	**106**	107	115	100	114	**106**	**101**
	Poland[3]	70	116	110	80	**64**	**145**	59	160	55	122	**107**	**132**
	Portugal[3]	76	97	105	89	**72**	**109**	73	170	77	108	**96**	**158**
	Slovak Republic[1]	97	145	105	86	**92**	**168**	81	170	72	169	**113**	**100**
	Spain	99	117	119	94	**84**	**124**	72	126	100	92	**72**	**137**
	Sweden	81	116	86	99	**94**	**117**	81	118	83	115	**98**	**103**
	Switzerland[3, 5]	101	106	95	102	**107**	**104**	74	127	95	139	**78**	**91**
	Turkey[3, 5]	57	m	m	m	**m**	**m**	55	m	m	m	**m**	**m**
	United Kingdom	86	137	87	88	**99**	**156**	97	174	89	108	**109**	**161**
	United States	80	121	95	103	**84**	**117**	71	134	92	120	**77**	**112**
	OECD average	*86*	*122*	*100*	*99*	*88*	*125*	*82*	*136*	*84*	*122*	*98*	*114*
	EU19 average	*88*	*122*	*101*	*96*	*87*	*128*	*82*	*137*	*83*	*119*	*101*	*117*
Partner countries	Brazil[3, 5]	82	181	85	99	**96**	**182**	78	126	79	147	**98**	**85**
	Estonia[5]	78	146	96	79	**81**	**186**	69	158	60	118	**115**	**134**
	Israel	85	114	89	110	**96**	**104**	77	118	74	125	**104**	**95**
	Russian Federation	m	322	m	m	**m**	**m**	m	317	m	m	**m**	**m**
	Slovenia	m	m	m	m	**m**	**m**	m	m	m	m	**m**	**m**

1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Year of reference 2006 instead of 2007.
3. Public institutions only (for Canada, in tertiary education only; for Italy, except in tertiary education).
4. Year of reference 2008 instead of 2007.
5. Public expenditure only.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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INDICATOR B2

WHAT PROPORTION OF NATIONAL WEALTH IS SPENT ON EDUCATION?

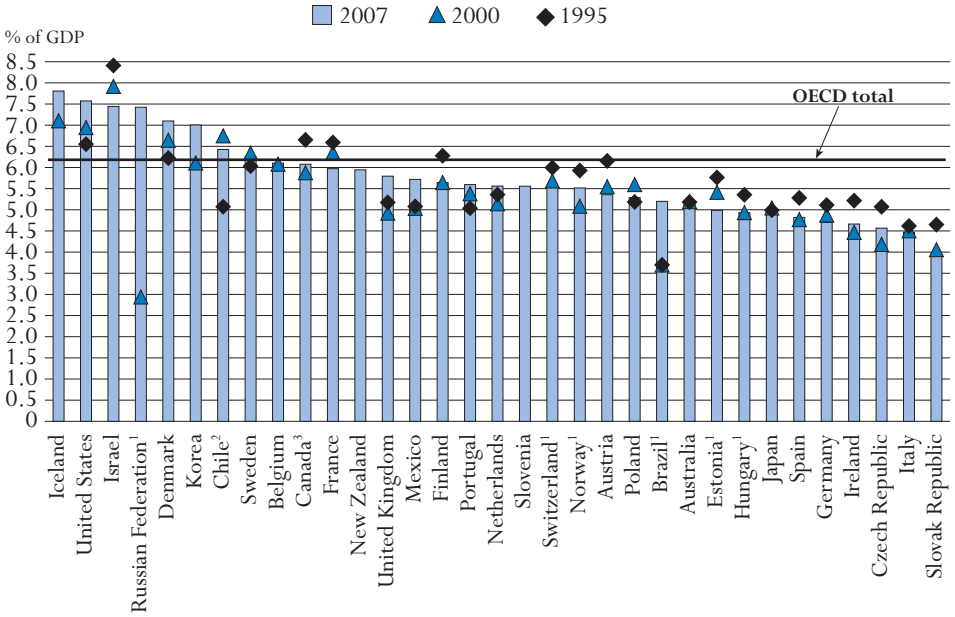
Expenditure on educational institutions as a percentage of GDP illustrates the priorities a country places on education in relation to its overall allocation of resources. Tuition fees and investment in education from private entities other than households (see Indicator B5) have a large impact on differences in the overall amount of financial resources that OECD and partner countries devote to their education systems, especially at the tertiary level.

Key results

Chart B2.1. Expenditure on educational institutions as a percentage of GDP, for all levels of education (1995, 2000, 2007)

This chart shows educational investment as the proportion of national income that countries devoted to spending on educational institutions in 1995, 2000 and 2007. It includes direct and indirect expenditure on educational institutions from both public and private sources of funds.

OECD countries spend 6.2% of their collective GDP on educational institutions. The increase in spending on educational institutions between 1995 and 2007 did not keep up with growth in national income in more than half of the 27 OECD and partner countries for which data are available.



1. Public expenditure only (for Switzerland, in tertiary education only).
2. Year of reference 2008 instead of 2007.
3. Year of reference 2006 instead of 2007.

Countries are ranked in descending order of expenditure from both public and private sources on educational institutions in 2007.

Source: OECD. Table B2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- About 59% of combined OECD expenditure on educational institutions, or 3.6% of the combined GDP in the OECD area, is devoted to primary, secondary and post-secondary non-tertiary education. Relative to its GDP, Iceland spends nearly twice as much as the Slovak Republic.
- Tertiary education accounts for nearly one-third of the combined OECD expenditure on educational institutions (2.0% of the combined GDP). In Canada and the United States expenditure at this level reaches 40% of expenditure on educational institutions.
- Canada, Chile, Korea and the United States spend between 2.0% and 3.1% of their GDP on tertiary institutions. Chile, Korea and the United States also show the highest proportions of private expenditure at the tertiary level (between 1.7% and 2.1% of GDP). Relative to GDP, the United States spend over three times more on tertiary education than Hungary, Italy, the Slovak Republic and the partner country Brazil.
- More people are completing upper secondary and tertiary education than ever before. In many countries this expansion has been accompanied by massive financial investments. For all levels of education combined, public and private investment in education increased in all countries by at least 8% between 1995 and 2007 in real terms, and increased on average by 49% in OECD countries. In three-quarters of these countries, the increase is greater for tertiary education than for primary to post-secondary non-tertiary levels combined.
- Expenditure for all levels of education combined increased at a faster rate than GDP only in 10 of the 27 countries for which data are available between 1995 and 2007. The increase exceeded 0.8 percentage point over the period in Chile (5.1% to 6.4%), Denmark (6.2% to 7.1%), the United States (6.6% to 7.6%) and the partner country Brazil (3.7% to 5.2%).
- Between 1995 and 2007, spending on the various levels of education evolved quite differently. From primary to post-secondary non-tertiary education, expenditure on educational institutions as a proportion of GDP decreased in 18 of the 27 OECD and partner countries for which data are available. In tertiary education, it significantly decreased from 1995 to 2007 only in Australia, Finland, Hungary, Ireland, the Netherlands and Norway.
- Ten of the fourteen countries with an above-average proportion of their population at the typical ages of primary and lower secondary education (Australia, Chile, Denmark, Iceland, Ireland, Korea, Mexico, New Zealand, Norway and the partner country Brazil) are also those with expenditure on educational institutions as a percentage of GDP that is above the OECD average.
- Projections of the size of the school-age population give an idea of the future demand for resources. Between 2000 and 2020, the size of the population aged 5-14 is set to decline in 27 out of 36 OECD and partner countries, by 8% on average in OECD countries, but by more than 30% in few countries.

Policy context

This indicator provides a measure of the proportion of a nation's wealth that is invested in educational institutions. Expenditure on educational institutions is an investment that can help foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality. Relative to GDP, expenditure on educational institutions shows the priority a country gives to education in terms of its available resources. The proportion of a country's total financial resources devoted to education results from choices made by government, enterprises, and individual students and their families, and is partially driven by enrolments in education.

The indicator also includes a comparative review of changes in educational investment over time. In deciding how much to allocate to education, governments must assess demands for increased spending in areas such as teachers' salaries and educational facilities. This indicator can provide a point of reference, as it shows how the volume of educational spending, relative to national wealth and in absolute terms, has evolved over time in various OECD countries.

Evidence and explanations

What this indicator does and does not cover

This indicator covers expenditure on schools, universities and other public and private institutions involved in delivering or supporting educational services (*e.g.* educational services delivered by enterprises, as part of dual programmes). Expenditure on institutions is not limited to expenditure on instructional services; it also includes public and private expenditure on ancillary services for students and families (such as housing and transport services) when these services are provided by educational institutions. Spending on research and development can be significant in tertiary education and is included in this indicator, to the extent that the research is performed by educational institutions.

Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials commercially or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living costs and foregone earnings can also account for a significant proportion of the costs of education. All expenditure outside educational institutions is excluded from this indicator, even if it is publicly subsidised. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Overall investment relative to GDP

All OECD countries invest a substantial proportion of their national resources in education. Taking into account both public and private sources of funds, OECD countries as a whole spend 6.2% of their collective GDP on educational institutions at the pre-primary, primary, secondary and tertiary levels. Given that it is largely public in nature (see Indicator B3), education expenditure is subject to close scrutiny by governments, particularly at a time of pressure on public budgets.

Denmark, Iceland, the United States and the partner countries Israel and the Russian Federation are the countries with the highest spending on educational institutions, with public and private spending representing more than 7% of GDP. Eight out of twenty-eight OECD countries for

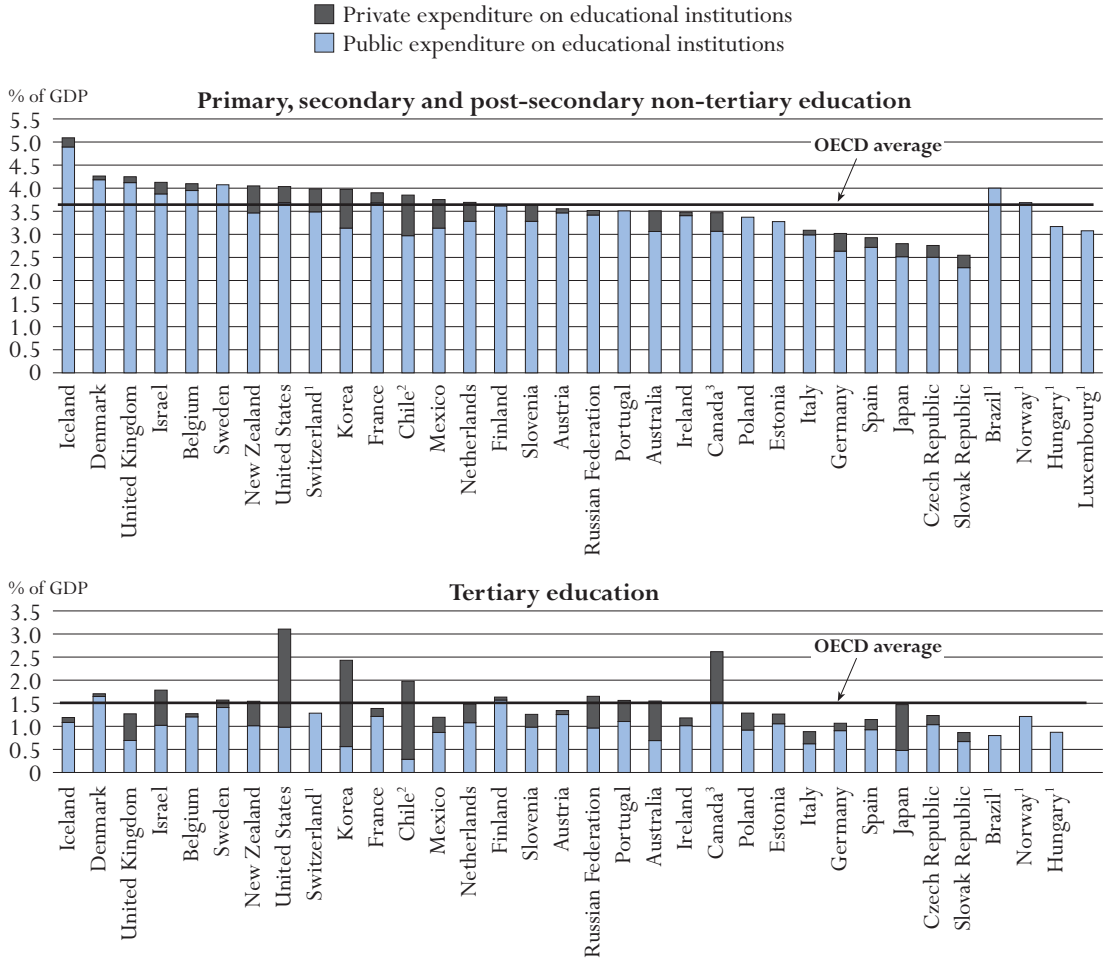
which data are available, as well as 1 out of 5 partner countries, spend 5% of GDP or less; Italy and the Slovak Republic spend the least, at 4.5% and 4.0%, respectively (Table B2.1).

Expenditure on educational institutions by level of education

Differences in spending on educational institutions are greatest at the pre-primary level. Less than 0.1% of GDP is spent on pre-primary education in Australia but 0.8% or more is spent in Iceland and the partner countries Israel and the Russian Federation (Table B2.2). These differences can be largely explained by participation rates (see Indicator C1) and starting age for primary education, but they are also sometimes a result of the extent to which this indicator covers private early childhood education.

Chart B2.2. Expenditure on educational institutions as a percentage of GDP (2007)

From public and private sources, by level of education and source of funds



1. Public expenditure only (for Switzerland, in tertiary education only).
2. Year of reference 2008.
3. Year of reference 2006.

Countries are ranked in descending order of expenditure from both public and private sources on educational institutions in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B2.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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In Ireland, for example, most early childhood education is delivered in private institutions that are not covered by the Irish data. Moreover, high-quality early childhood education is provided not only by the educational institutions covered by this indicator but also in more informal settings. Inferences on access to and quality of early childhood education and care should therefore be made with caution.

On average, among OECD countries, 64% of expenditure on educational institutions (or 59% of the combined expenditure for the OECD area) goes to primary, secondary and post-secondary non-tertiary levels. As enrolment in primary and lower secondary education is almost universal in OECD countries, and participation rates in upper secondary education are high (see Indicator C1), these levels account for the bulk of expenditure on educational institutions: 3.6% of the combined OECD GDP. At the same time, significantly higher spending per student on upper secondary and tertiary educational institutions means that overall investment at these levels is greater than enrolment numbers alone would suggest.

Nearly one-third of the combined OECD expenditure on educational institutions is devoted to tertiary education. At this level, the pathways available to students, the duration of programmes and the organisation of teaching vary greatly among OECD countries, resulting in significant differences in expenditures. On the one hand, Canada, Chile, Korea and the United States spend between 2.0% and 3.1% of their GDP on tertiary institutions; with the exception of Canada those countries are also those with the highest proportion of private expenditure on tertiary education. On the other hand, the proportion of GDP spent on tertiary institutions in Belgium, France, Iceland, Mexico, Norway, Switzerland, the United Kingdom and the partner country Brazil is below the OECD average, while the proportion of GDP spent on primary, secondary and post-secondary non-tertiary education in these countries is above the OECD average (Table B2.1 and Chart B2.2).

Changes in overall educational spending on educational institutions between 1995, 2000 and 2007

More people are completing upper secondary and tertiary education than ever before (see Indicator A1). In many countries, this growth has been accompanied by massive financial investment. For all levels of education combined, public and private investment in educational institutions increased in all countries by at least 8% between 1995 and 2007 in real terms, and increased on average by 49% in OECD countries (see Table B2.5 available on line).

Differences among countries are partly related to variations in the size of the school-age population, as well as to trends in national income. For example, in Ireland, while spending on all levels of education combined doubled between 1995 and 2007, GDP more than doubled over the same period, leading to a decrease in expenditure as a proportion of GDP (see Table B2.5 available on line).

Expenditure for all levels of education combined increased at a greater rate than GDP only in 10 of the 27 countries for which data are available for 1995 and 2007. The increase exceeded 0.8 percentage point over the period in Chile (5.1% to 6.4%), Denmark (6.2% to 7.1%), the United States (6.6% to 7.6%) and the partner country Brazil (3.7% to 5.2%). However, the increase in spending on educational institutions tended to lag behind growth in GDP in the remaining countries (17 out of the 27 OECD and partner countries for which data are available). The most notable differences are found in Austria, Finland, France, the Slovak Republic and

the partner countries Estonia and Israel, where the proportion of GDP spent on educational institutions decreased by 0.6 percentage point or more between 1995 and 2007 (Table B2.1), mainly as a result of the decrease in expenditure as a percentage of GDP at the primary, secondary and post-secondary non-tertiary levels.

Between 1995 and 2007, spending on the various levels of education evolved quite differently. From primary to post-secondary non-tertiary education, expenditure on educational institutions as a proportion of GDP decreased in 18 of the 27 OECD and partner countries for which data are available. In tertiary education, it decreased significantly from 1995 to 2007 only in Australia, Finland, Hungary, Ireland, the Netherlands and Norway.

Between 1995 and 2007, in 21 out of the 27 OECD and partner countries for which data are available, expenditure on educational institutions (as a proportion of GDP) for tertiary education increased at a greater rate than for primary, secondary and post-secondary non-tertiary education. This is due to increase in students at tertiary level of education and stability in student numbers at lower levels (see Table B1.5). The exceptions to this pattern are Australia, Chile, Denmark, the Netherlands, the United Kingdom and the partner country Brazil (Table B2.1).

Relationship between national expenditure on educational institutions and demographic patterns

The level of national resources devoted to education depends on a number of interrelated factors, such as the demographic structure of the population, enrolment rates, income per capita, level of teachers' salaries, and the organisation and delivery of instruction. For example, countries with high levels of expenditure may enrol larger numbers of students, while countries with low levels may limit access to higher levels of education or deliver educational services in a particularly efficient manner. The distribution of enrolments among sectors and fields of study may also differ, as may the duration of studies and the scale and organisation of related educational research. Finally, large differences in GDP among OECD countries mean that similar percentages of GDP spent on educational institutions can result in very different levels of expenditure per student (see Indicator B1).

The size of a country's school-age population determines the potential demand for initial education and training: the larger this population, the greater the potential demand for educational services. Other things being equal, a country in which this population is relatively large will spend a higher percentage of GDP on educational institutions than a country in which the population is relatively small.

Expenditure on primary and lower secondary educational institutions as a percentage of GDP can be compared with the size of the population aged 5-14 (broadly the age of the primary and lower secondary school population). Among countries with data available on both measures, 10 of the 14 countries with an above-average proportion of their population in this age group (Australia, Chile, Denmark, Iceland, Ireland, Korea, Mexico, New Zealand, Norway and the partner country Brazil) also have above-average expenditure on educational institutions as a percentage of GDP (Chart B2.3). In contrast, the Czech Republic, Germany, Italy, Japan, Spain and the partner countries Estonia and Slovenia, which have the lowest proportions of the population aged 5-14 (less than 10%), have, with the exception of Slovenia, below-average expenditure on educational institutions (Table B2.3 and Chart B2.3).

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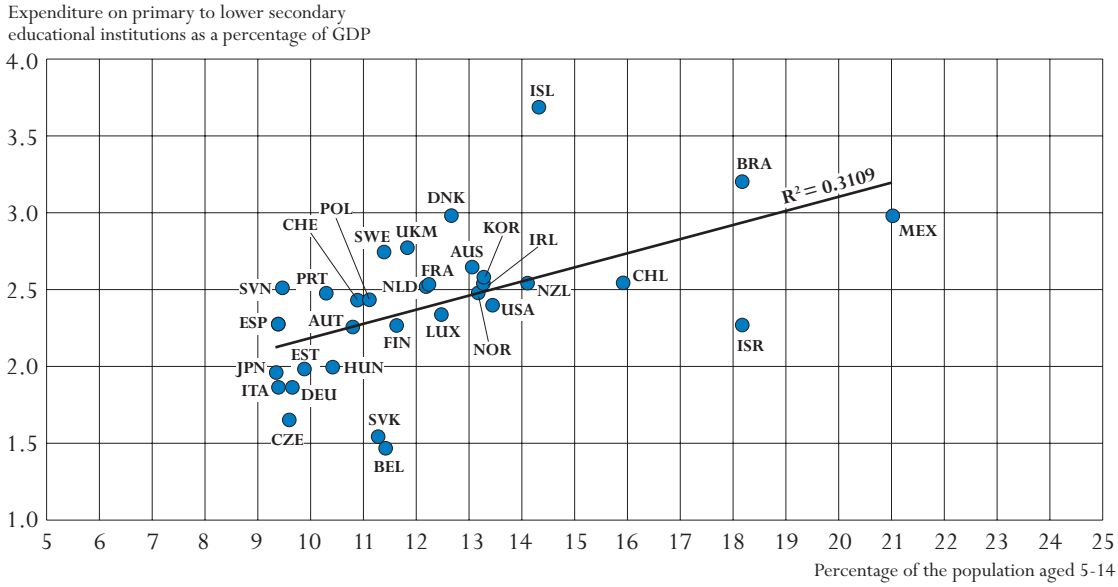
Chart B2.3. Expenditure on primary and lower secondary educational institutions as a percentage of GDP and proportion of the population aged 5-14 (2007)



Please refer to the Reader's Guide for the list of country codes used in this chart.
Source: OECD. Tables B2.2 and B2.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310301

For the population aged 15-19 and 20-29 (broadly the ages of the upper secondary and tertiary school populations) the relationship between expenditure and the proportion of the population is less clear. This may be because the age of students at these levels varies much more than at lower levels. Moreover, the proportion of the population in a given age group does not, in and of itself, determine the level of expenditure. Countries with similar proportions of the population in education may spend different shares of their GDP on educational institutions, according to the priority they accord to education or to how they distribute education expenditure among levels of education (Table B2.3 and Chart B2.3). For example, the proportion of the population at the typical ages for primary and lower secondary education is quite similar in Poland and in the Slovak Republic (11.1% and 11.3%, respectively), but Poland spends more of its GDP on educational institutions at these levels of education than the Slovak Republic (2.4% and 1.5%, respectively).

Projections of the size of the school-age population give some idea of the possible evolution of expenditure on education. The size of the population aged 5-14 is set to decline in 27 out of 36 OECD and partner countries between 2000 and 2020. These trends may create difficult challenges, such as the need to manage surplus school capacity, to reorganise schools and even to close some. The greatest challenges over the next decades (from 2000 to 2020) are likely to be found in the Czech Republic, Japan, Korea, Mexico, Poland, the Slovak Republic and the partner country the Russian Federation, where student numbers in primary and lower secondary education are expected to fall by 20% or more (Table B2.3). However, countries such as Australia, Ireland, Spain and the partner country Israel may face challenges arising

from an increase in the school-age population, as their population aged 5-14 is expected to increase by more than 10% up to 2020. The challenge may be particularly acute for the partner country Israel, which, in 2007 was one of the three OECD and partner countries that spend the largest proportion of their GDP on primary, secondary and post-secondary non-tertiary education (4.1% of GDP).

Among 15-19 and 20-29 year-olds, the age groups broadly corresponding to upper secondary and tertiary education, population trends are more varied, although projections show declines of 8% and 5%, respectively, between 2000 and 2020. However, at these levels, the average relationship between the size of the population and the level of expenditure is less pronounced. While enrolment rates are close to 100% at lower levels of education (primary and lower secondary) in OECD countries (see Indicator C1) so that the student numbers are closely related to demographics, this is less so for upper secondary and tertiary education (Table B2.3).

Expenditure on educational institutions by source of funding

Increased expenditure on educational institutions in response to growth in enrolments implies a heavier financial burden for society as a whole, one which does not however fall entirely on public funding. On average, of the 6.2% of the combined OECD area GDP devoted to education, around three-quarters comes from public sources (Table B2.4). These are the major funding sources in all countries and account for more than 97% in Finland and Sweden. However, differences among countries in the breakdown of educational expenditure by source of funding and by level of education are greater (see Indicator B3).

Definitions and methodologies

Data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Expenditure on educational institutions, as covered by this indicator, includes expenditure on both instructional and non-instructional educational institutions. Instructional educational institutions are those that provide instructional programmes (*i.e.* teaching) directly to individuals in an organised group setting or through distance education. Business enterprises or other institutions providing short-term courses of training or instruction to individuals on a one-to-one basis are not included. However, expenditures of business enterprises that provide training or instruction to students as part of dual educational programmes are included. Non-instructional educational institutions provide administrative, advisory or professional services to other educational institutions but do not enrol students themselves. Examples include national, state and provincial ministries or departments of education; other bodies that administer education at various levels of government or analogous bodies in the private sector; and organisations that provide education-related services, such as vocational or psychological counselling, placement, testing, financial aid to students, curriculum development, educational research, building operations and maintenance services, transport of students, and student meals and housing.

This definition of institutions ensures that expenditure on services, which are provided in some OECD countries by schools and universities and in others by agencies other than schools, are covered on a comparable basis.

The distinction by source of funds is based on the initial source of funds and does not reflect subsequent public-to-private or private-to-public transfers. For this reason, subsidies to households and other entities, such as subsidies for tuition fees and other payments to educational institutions, are included in public expenditure in this indicator. Payments from households and other private entities to educational institutions include tuition and other fees, net of offsetting public subsidies. A detailed discussion of public subsidies can be found in Indicator B5.

The OECD average is calculated as the simple average of all OECD countries for which data are available. The OECD total reflects the value of the indicator if the OECD region is considered as a whole (see the Reader's Guide for details).

Table B2.1 shows expenditure on educational institutions for the financial years 1995, 2000 and 2007. The data on expenditure for 1995 and 2000 were obtained by a special survey updated in 2009; expenditure for 1995 was adjusted to reflect the methods and definitions used in the 2009 UOE data collection. For comparisons over time, the OECD average accounts only for those OECD countries for which data are available for all reported reference years.

The population projections are taken from the *UN Population Database*. Changes in the sizes of the respective populations between 2000 and 2020 are expressed as percentages relative to the size of the population in 2000 (index = 100). The statistics cover residents in the country, regardless of citizenship and of educational or labour market status.

The projected change in student numbers is estimated from the projected population changes as follows: 5-14 year-olds for primary and lower secondary, 15-19 year-olds for upper secondary, 20-29 year-olds for tertiary education.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310301

- ***Table B2.5. Change in expenditure on educational institutions and in GDP (1995, 2000, 2007)***

Table B2.1.

Expenditure on educational institutions as a percentage of GDP, by level of education (1995, 2000, 2007)

From public and private sources, by year

		2007			2000			1995		
		Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education	Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education	Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education
OECD countries	**Australia**	3.5	1.5	**5.2**	3.6	1.5	**5.2**	3.5	1.6	**5.2**
	Austria	3.6	1.3	**5.4**	3.9	1.1	**5.5**	4.3	1.2	**6.2**
	Belgium	4.1	1.3	**6.1**	4.1	1.3	**6.1**	m	m	**m**
	Canada[1, 2]	3.5	2.6	**6.1**	3.3	2.3	**5.9**	4.3	2.1	**6.7**
	Chile[3]	3.9	2.0	**6.4**	4.4	2.0	**6.7**	3.2	1.7	**5.1**
	Czech Republic	2.8	1.2	**4.6**	2.8	0.8	**4.2**	3.5	0.9	**5.1**
	Denmark[2]	4.3	1.7	**7.1**	4.1	1.6	**6.6**	4.0	1.6	**6.2**
	Finland	3.6	1.6	**5.6**	3.6	1.7	**5.6**	4.0	1.9	**6.3**
	France	3.9	1.4	**6.0**	4.3	1.3	**6.4**	4.5	1.4	**6.6**
	Germany	3.0	1.1	**4.7**	3.3	1.1	**4.9**	3.4	1.1	**5.1**
	Greece[2]	m	m	**m**	2.7	0.8	**3.6**	2.0	0.6	**2.6**
	Hungary[4]	3.2	0.9	**4.9**	2.9	1.1	**4.9**	3.5	1.0	**5.4**
	Iceland[2]	5.1	1.2	**7.8**	4.8	1.1	**7.1**	m	m	**m**
	Ireland	3.5	1.2	**4.7**	2.9	1.5	**4.5**	3.8	1.3	**5.2**
	Italy	3.1	0.9	**4.5**	3.2	0.9	**4.5**	3.5	0.7	**4.6**
	Japan[2]	2.8	1.5	**4.9**	3.0	1.4	**5.0**	3.1	1.3	**5.0**
	Korea	4.0	2.4	**7.0**	3.5	2.2	**6.1**	m	m	**m**
	Luxembourg[2, 4]	3.1	m	**m**	m	m	**m**	m	m	**m**
	Mexico	3.8	1.2	**5.7**	3.5	1.0	**5.0**	3.7	1.0	**5.1**
	Netherlands	3.7	1.5	**5.6**	3.4	1.4	**5.1**	3.4	1.6	**5.4**
	New Zealand	4.0	1.5	**5.9**	m	m	**m**	m	m	**m**
	Norway[4]	3.7	1.3	**5.5**	3.8	1.2	**5.1**	4.3	1.6	**5.9**
	Poland	3.4	1.3	**5.3**	3.9	1.1	**5.6**	3.6	0.8	**5.2**
	Portugal	3.5	1.6	**5.6**	3.9	1.0	**5.4**	3.6	0.9	**5.0**
	Slovak Republic[2]	2.5	0.9	**4.0**	2.7	0.8	**4.1**	3.1	0.7	**4.7**
	Spain	2.9	1.1	**4.8**	3.2	1.1	**4.8**	3.8	1.0	**5.3**
	Sweden	4.1	1.6	**6.3**	4.3	1.6	**6.3**	4.1	1.5	**6.0**
	Switzerland[4]	4.0	1.2	**5.5**	4.2	1.1	**5.7**	4.6	0.9	**6.0**
	Turkey[4]	m	m	**m**	1.8	0.8	**2.5**	1.2	0.5	**1.7**
	United Kingdom	4.2	1.3	**5.8**	3.5	1.0	**4.9**	3.6	1.1	**5.2**
	United States	4.0	3.1	**7.6**	3.9	2.7	**6.9**	3.8	2.3	**6.6**
	OECD average	***3.6***	***1.5***	***5.7***	~	~	~	~	~	~
	OECD total	***3.6***	***2.0***	***6.2***	~	~	~	~	~	~
	EU19 average	***3.5***	***1.3***	***5.3***	~	~	~	~	~	~
	OECD mean for countries with 1995, 2000 and 2007 data (24 countries)	***3.5***	***1.5***	***5.5***	***3.6***	***1.3***	***5.4***	***3.8***	***1.3***	***5.5***
Partner countries	**Brazil**[4]	4.0	0.8	**5.2**	2.6	0.7	**3.7**	2.6	0.7	**3.7**
	Estonia[4]	3.3	1.3	**5.0**	3.9	1.0	**5.4**	4.2	1.0	**5.8**
	Israel	4.1	1.8	**7.4**	4.5	1.9	**7.9**	4.9	1.8	**8.4**
	Russian Federation[4]	3.5	1.7	**7.4**	1.7	0.5	**2.9**	m	m	**m**
	Slovenia	3.6	1.3	**5.6**	m	m	**m**	m	m	**m**

1. Year of reference 2006 instead of 2007.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a. for details.
3. Year of reference 2008 instead of 2007.
4. Public expenditure only (for Switzerland, in tertiary education only).

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310301

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Table B2.2.

Expenditure on educational institutions as a percentage of GDP, by level of education (2007)

From public and private sources of funds[1]

		Pre-primary education (for children aged 3 and older)	Primary, secondary and post-secondary non-tertiary education				Tertiary education			All levels of education combined (including undistributed programmes)
			All primary, secondary and post-secondary non-tertiary education	Primary and lower secondary education	Upper secondary education	Post-secondary non-tertiary education	All tertiary education	Tertiary-type B education	Tertiary-type A education and advanced research programmes	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	0.1	3.5	2.6	0.8	0.1	1.5	0.1	1.4	**5.2**
	Austria	0.5	3.6	2.3	1.3	n	1.3	0.1	1.3	**5.4**
	Belgium[2]	0.6	4.1	1.5	2.6	x(4)	1.3	x(6)	x(6)	**6.1**
	Canada[3]	x(2)	3.5	x(2)	x(2)	x(7)	2.6	1.0	1.6	**6.1**
	Chile[4]	0.6	3.9	2.5	1.3	a	2.0	0.4	1.5	**6.4**
	Czech Republic	0.4	2.8	1.6	1.1	n	1.2	n	1.2	**4.6**
	Denmark	0.7	4.3	3.0	1.3	x(4, 6)	1.7	x(6)	x(6)	**7.1**
	Finland	0.4	3.6	2.3	1.4	x(4)	1.6	n	1.6	**5.6**
	France	0.7	3.9	2.5	1.3	n	1.4	0.3	1.1	**6.0**
	Germany	0.5	3.0	1.9	1.0	0.2	1.1	0.1	1.0	**4.7**
	Greece	m	m	m	m	m	m	m	m	**m**
	Hungary[5]	0.7	3.2	2.0	1.0	0.1	0.9	n	0.8	**4.9**
	Iceland	0.9	5.1	3.7	1.4	x(4)	1.2	x(6)	x(6)	**7.8**
	Ireland	n	3.5	2.5	0.7	0.2	1.2	x(6)	x(6)	**4.7**
	Italy	0.5	3.1	1.9	1.2	n	0.9	n	0.9	**4.5**
	Japan	0.2	2.8	2.0	0.8	x(4, 6)	1.5	0.2	1.2	**4.9**
	Korea	0.2	4.0	2.6	1.4	a	2.4	0.4	2.1	**7.0**
	Luxembourg[5]	x(2)	3.1	2.3	0.7	m	m	m	m	**m**
	Mexico	0.6	3.8	3.0	0.8	a	1.2	x(6)	x(6)	**5.7**
	Netherlands	0.4	3.7	2.5	1.2	n	1.5	a	1.5	**5.6**
	New Zealand	0.3	4.0	2.5	1.3	0.2	1.5	0.3	1.3	**5.9**
	Norway[5]	0.4	3.7	2.5	1.2	x(4)	1.3	x(6)	x(6)	**5.5**
	Poland	0.6	3.4	2.4	0.9	n	1.3	n	1.3	**5.3**
	Portugal	0.4	3.5	2.5	1.0	m	1.6	x(6)	x(6)	**5.6**
	Slovak Republic	0.4	2.5	1.5	1.0	x(4)	0.9	x(4)	0.9	**4.0**
	Spain	0.7	2.9	2.3	0.7	a	1.1	0.2	1.0	**4.8**
	Sweden	0.6	4.1	2.7	1.3	n	1.6	x(6)	x(6)	**6.3**
	Switzerland[5]	0.2	4.0	2.4	1.5	n	1.2	n	1.2	**5.5**
	Turkey	m	m	m	m	a	m	m	m	**m**
	United Kingdom	0.3	4.2	2.8	1.5	n	1.3	x(6)	x(6)	**5.8**
	United States	0.4	4.0	3.0	1.1	m	3.1	x(6)	x(6)	**7.6**
	OECD average	*0.5*	*3.6*	*2.4*	*1.2*	*n*	*1.5*	*0.2*	*1.3*	*5.7*
	OECD total	*0.4*	*3.6*	*2.5*	*1.1*	*n*	*2.0*	*0.2*	*1.2*	*6.2*
	EU19 average	*0.5*	*3.5*	*2.2*	*1.2*	*n*	*1.3*	*0.1*	*1.1*	*5.3*
Partner countries	Brazil[5]	0.4	4.0	3.2	0.7	a	0.8	x(6)	x(6)	**5.2**
	China[5]	m	m	m	m	m	m	m	m	**3.3**
	Estonia	0.4	3.3	2.0	1.1	0.2	1.3	0.4	0.9	**5.0**
	India[5, 6]	n	2.6	1.6	1.0	n	m	m	0.7	**3.3**
	Indonesia[5]	n	2.9	2.5	0.4	a	0.3	n	0.3	**3.2**
	Israel	0.8	4.1	2.3	1.8	n	1.8	0.3	1.4	**7.4**
	Russian Federation[5]	1.6	3.5	x(2)	x(2)	x(2)	1.7	0.3	1.3	**7.4**
	Slovenia	0.7	3.6	2.5	1.1	x(4)	1.3	x(6)	x(6)	**5.6**

1. Including international sources.
2. Column 3 only refers to primary education and Column 4 refers to all secondary education.
3. Year of reference 2006.
4. Year of reference 2008.
5. Public expenditure only (for Switzerland, in tertiary education only).
6. Year of reference 2005.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The national *Statistics Bulletin on Educational Expenditure 2007*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B2.3.

Expenditure on educational institutions as a percentage of GDP (2007), proportion of the population at basic ages of primary to tertiary education (school year 2006-07) and demographic trends (2000-20)

Expenditure on educational institutions from public and private sources; proportion in 2007 and index of change between 2000, 2010 and 2020 of the population aged 5-14, 15-19 and 20-29

		Expenditure on educational institutions as a percentage of GDP (2007)			Percentage of the total population (school year 2006-07)			Change in the size of the population (2000 = 100)					
								Ages 5-14		Ages 15-19		Ages 20-29	
		Primary and lower secondary education	Upper secondary education	Tertiary education	Ages 5-14	Ages 15-19	Ages 20-29	2010	2020	2010	2020	2010	2020
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	2.6	0.8	1.5	13.0	6.9	14.0	104	116	110	112	121	132
	Austria	2.3	1.3	1.3	10.8	6.0	12.7	91	88	104	91	106	104
	Belgium[1]	1.5	2.6	1.3	11.4	6.1	12.4	96	93	104	97	99	98
	Canada[1]	x(2)	3.5	2.6	11.7	6.8	13.7	91	91	105	93	111	111
	Chile[1]	2.5	1.3	2.0	15.9	8.8	15.9	87	85	112	94	115	117
	Czech Republic	1.6	1.1	1.2	9.6	6.3	14.8	74	78	86	68	81	63
	Denmark	3.0	1.3	1.7	12.7	5.9	11.4	103	94	126	120	86	99
	Finland	2.3	1.4	1.6	11.6	6.2	12.6	91	95	100	89	105	103
	France	2.5	1.3	1.4	12.2	6.4	12.8	102	103	96	102	100	96
	Germany	1.9	1.0	1.1	9.6	5.8	11.9	87	82	93	84	104	93
	Greece	m	m	m	9.5	5.3	13.8	91	95	78	75	82	69
	Hungary[1]	2.0	1.0	0.9	10.4	6.2	14.4	81	83	88	74	83	70
	Iceland	3.7	1.4	1.2	14.3	7.5	14.5	96	97	108	100	101	104
	Ireland	2.5	0.7	1.2	13.3	6.8	16.9	106	115	82	94	103	91
	Italy	1.9	1.2	0.9	9.4	5.0	11.5	101	97	94	95	79	74
	Japan	2.0	0.8	1.5	9.3	5.0	12.0	92	73	81	75	77	68
	Korea	2.6	1.4	2.4	13.3	6.6	15.1	86	63	89	64	83	79
	Luxembourg[1]	2.3	0.7	m	12.5	5.9	12.6	107	108	122	123	105	121
	Mexico	3.0	0.8	1.2	21.0	10.0	17.6	94	80	104	94	100	101
	Netherlands	2.5	1.2	1.5	12.2	6.1	12.0	100	90	108	107	94	100
	New Zealand	2.5	1.3	1.5	14.1	7.6	13.2	99	95	117	113	106	112
	Norway[1]	2.5	1.2	1.3	13.2	6.6	12.1	102	98	120	116	98	111
	Poland	2.4	0.9	1.3	11.1	7.3	16.8	70	66	74	53	106	75
	Portugal	2.5	1.0	1.6	10.3	5.5	13.9	99	92	81	83	84	74
	Slovak republic	1.5	1.0	0.9	11.3	7.4	16.9	70	70	78	57	94	70
	Spain	2.3	0.7	1.1	9.4	5.1	14.6	106	111	84	89	81	67
	Sweden	2.7	1.3	1.6	11.4	6.8	12.0	84	94	122	104	104	106
	Switzerland[1]	2.4	1.5	1.2	10.9	6.0	12.2	93	89	108	96	107	106
	Turkey	m	m	m	19.2	8.7	18.4	105	100	102	99	98	105
	United Kingdom	2.8	1.5	1.3	11.8	6.6	13.2	92	103	107	97	115	113
	United States	2.4	1.1	3.1	13.4	7.1	14.0	100	110	108	111	113	117
	OECD average	***2.4***	***1.2***	***1.5***	***12.2***	***6.6***	***13.9***	***94***	***92***	***100***	***92***	***98***	***95***
	EU19 average	***2.2***	***1.2***	***1.3***	***12.8***	***6.9***	***14.6***	***92***	***91***	***97***	***89***	***98***	***93***
Partner countries	Brazil[1]	3.2	0.7	0.8	18.2	9.1	17.4	101	85	91	94	113	107
	Estonia	2.0	1.1	1.3	9.9	7.7	14.9	69	87	75	63	110	73
	Israel	2.3	1.8	1.8	18.2	8.1	15.6	119	127	108	130	110	122
	Russian Federation[1]	x(2)	3.5	1.7	9.6	7.8	16.8	66	76	67	58	113	68
	Slovenia	2.5	1.1	1.3	9.5	5.9	14.4	81	89	74	65	92	70

1. See notes on expenditure on educational institutions as a percentage of GDP in Table B2.2.

Source: OECD Main Economic Indicators Database. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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B2

Table B2.4.

Expenditure on educational institutions as a percentage of GDP, by source of fund and level of education (2007)

From public and private sources of funds

		Primary, secondary and post-secondary non-tertiary education			Tertiary education			Total all levels of education		
		Public[1]	Private[2]	Total	Public[1]	Private[2]	Total	Public[1]	Private[2]	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	3.1	0.4	**3.5**	0.7	0.9	**1.5**	3.8	1.4	**5.2**
	Austria	3.5	0.1	**3.6**	1.3	0.1	**1.3**	5.1	0.2	**5.4**
	Belgium	3.9	0.1	**4.1**	1.2	0.1	**1.3**	5.9	0.2	**6.1**
	Canada[3,4]	3.1	0.4	**3.5**	1.5	1.1	**2.6**	4.6	1.5	**6.1**
	Chile[5]	3.0	0.9	**3.9**	0.3	1.7	**2.0**	3.7	2.7	**6.4**
	Czech Republic	2.5	0.3	**2.8**	1.0	0.2	**1.2**	4.1	0.5	**4.6**
	Denmark[4]	4.2	0.1	**4.3**	1.6	0.1	**1.7**	6.6	0.5	**7.1**
	Finland	3.6	n	**3.6**	1.6	0.1	**1.6**	5.5	0.1	**5.6**
	France	3.7	0.2	**3.9**	1.2	0.2	**1.4**	5.5	0.4	**6.0**
	Germany	2.6	0.4	**3.0**	0.9	0.2	**1.1**	4.0	0.7	**4.7**
	Greece	m	m	**m**	m	m	**m**	m	m	**m**
	Hungary	3.2	m	**m**	0.9	m	**m**	4.9	m	**m**
	Iceland	4.9	0.2	**5.1**	1.1	0.1	**1.2**	7.0	0.8	**7.8**
	Ireland	3.4	0.1	**3.5**	1.0	0.2	**1.2**	4.4	0.2	**4.7**
	Italy	3.0	0.1	**3.1**	0.6	0.3	**0.9**	4.1	0.4	**4.5**
	Japan[4]	2.5	0.3	**2.8**	0.5	1.0	**1.5**	3.3	1.6	**4.9**
	Korea	3.1	0.8	**4.0**	0.6	1.9	**2.4**	4.2	2.8	**7.0**
	Luxembourg[4]	3.1	m	**m**	m	m	**m**	m	m	**m**
	Mexico	3.1	0.6	**3.8**	0.9	0.3	**1.2**	4.7	1.1	**5.7**
	Netherlands	3.3	0.4	**3.7**	1.1	0.4	**1.5**	4.7	0.8	**5.6**
	New Zealand	3.5	0.6	**4.0**	1.0	0.5	**1.5**	4.8	1.2	**5.9**
	Norway	3.7	m	**m**	1.2	m	**m**	5.4	m	**m**
	Poland	3.4	n	**3.4**	0.9	0.4	**1.3**	4.8	0.5	**5.3**
	Portugal	3.5	n	**3.5**	1.1	0.5	**1.6**	5.1	0.5	**5.6**
	Slovak Republic[4]	2.3	0.3	**2.5**	0.7	0.2	**0.9**	3.4	0.5	**4.0**
	Spain	2.7	0.2	**2.9**	0.9	0.2	**1.1**	4.2	0.6	**4.8**
	Sweden	4.1	n	**4.1**	1.4	0.2	**1.6**	6.1	0.2	**6.3**
	Switzerland	3.5	0.5	**4.0**	1.3	m	**m**	5.1	m	**m**
	Turkey	m	m	**m**	m	m	**m**	m	m	**m**
	United Kingdom	4.1	0.1	**4.2**	0.7	0.6	**1.3**	5.2	0.6	**5.8**
	United States	3.7	0.3	**4.0**	1.0	2.1	**3.1**	5.0	2.6	**7.6**
	OECD average	***3.3***	***0.3***	***3.6***	***1.0***	***0.5***	***1.5***	***4.8***	***0.9***	***5.7***
	OECD total	***3.3***	***0.3***	***3.6***	***0.9***	***1.2***	***2.1***	***4.6***	***1.6***	***6.2***
	EU19 average	***3.3***	***0.1***	***3.5***	***1.1***	***0.2***	***1.3***	***4.9***	***0.4***	***5.4***
Partner countries	Brazil	4.0	m	**m**	0.8	m	**m**	5.2	m	**m**
	China	m	m	**m**	m	m	**m**	3.3	m	**m**
	Estonia	3.3	n	**3.3**	1.1	0.2	**1.3**	4.7	0.3	**5.0**
	India[6]	2.6	m	**m**	0.7	m	**m**	3.3	m	**m**
	Indonesia	2.9	m	**m**	0.3	m	**m**	3.2	m	**m**
	Israel	3.9	0.3	**4.1**	1.0	0.8	**1.8**	5.9	1.6	**7.4**
	Russian Federation	3.4	0.1	**3.5**	1.0	0.7	**1.7**	6.1	1.3	**7.4**
	Slovenia	3.3	0.4	**3.6**	1.0	0.3	**1.3**	4.8	0.7	**5.6**

1. Including public subsidies to households attributable for educational institutions, and direct expenditure on educational institutions from international sources.
2. Net of public subsidies attributable for educational institutions.
3. Year of reference 2006.
4. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
5. Year of reference 2008.
6. Year of reference 2005.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The national *Statistics Bulletin on Educational Expenditure 2007*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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INDICATOR B3

HOW MUCH PUBLIC AND PRIVATE INVESTMENT IS THERE IN EDUCATION?

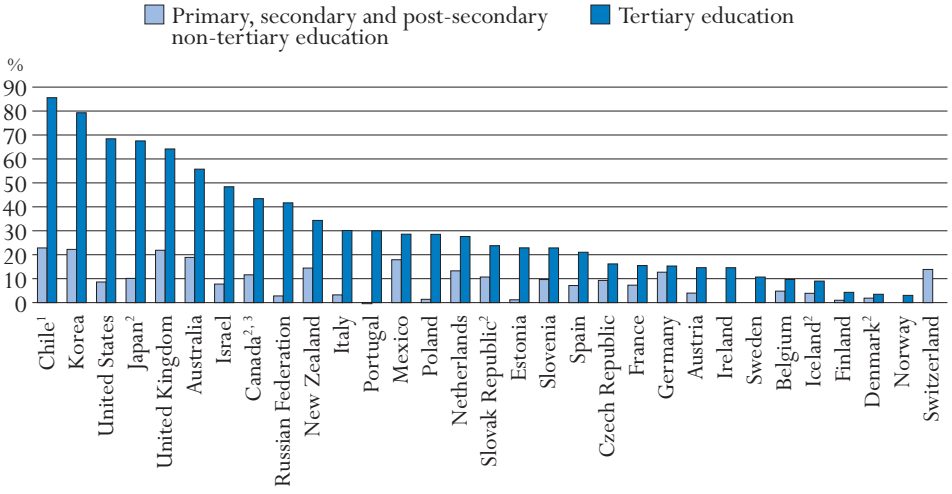
This indicator examines the proportion of public and private funding allocated to educational institutions at each level. It also breaks down private funding by households and expenditures by private entities other than households. It sheds some light on the widely debated issue of how the financing of educational institutions should be shared between public and private entities, particularly at the tertiary level. Finally, it looks at public funding relative to the size of education systems and at how public funding is allocated between public and private institutions.

Key results

Chart B3.1. Share of private expenditure on educational institutions (2007)

The chart shows private spending on educational institutions as a percentage of total spending on educational institutions. This includes all money transferred to educational institutions from private sources, including public funding via subsidies to households, private fees for educational services or other private spending (e.g. on accommodation) which goes through the institution.

On average in OECD countries over 90% of primary, secondary and post-secondary non-tertiary education, and never less than 80% (except in Chile, Korea and the United Kingdom), is paid for publicly. However, in tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and Norway, to more than 40% in Australia, Canada, Japan, the United Kingdom, the United States and the partner countries Israel and the Russian Federation, and to over 75% in Chile and Korea. As in the case of tertiary graduation and entry rates, the proportion of private funding may be affected by the presence of international students, who represent a relatively high proportion of students in Australia and New Zealand.



1. Year of reference 2008.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2006.

Countries are ranked in descending order of the share of private expenditure on educational institutions for tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- In all countries for which comparable data are available, public funding on educational institutions, all levels combined, increased between 2000 and 2007. Private spending increased at an even greater rate in more than three-quarters of countries. Nevertheless, in 2007, 83% of overall expenditure, on average, was from public sources.
- The share of spending on tertiary educational institutions from private sources rose substantially in some countries between 2000 and 2007, but this was not the case for other levels of education.
- On average among the 17 OECD countries for which trend data are available, the share of public funding of tertiary institutions decreased slightly from 78% in 1995 to 76% in 2000 and to 71% in 2006 and 70% in 2007. This trend is mainly influenced by non-European countries where tuition fees are generally higher and enterprises participate more actively by providing grants to finance tertiary institutions.
- The increase in private investment has gone hand in hand with increased public financing. Between 2000 and 2007, in 8 out of the 11 OECD countries with the largest increase in public expenditure on tertiary education, tertiary institutions charged low or no tuition fees. The exceptions are Korea, New Zealand and the United States.
- Compared to other levels of education, tertiary institutions, and to a lesser extent pre-primary institutions, obtain the largest proportions of funds from private sources, at 31% and 20%, respectively.
- In tertiary education, households account for most private expenditure in most countries for which data are available. Exceptions are Austria, Belgium, Canada, the Czech Republic, the Slovak Republic and Sweden, where private expenditure from entities other than households is more significant.
- Public expenditure mainly funds public institutions, but also private institutions to varying degrees. Except for Hungary and Mexico, the countries with the lowest level of public expenditure per tertiary student in public and private institutions are also those with the fewest students enrolled in public institutions at this level.
- On average among OECD countries, public expenditure per student on public institutions is more than twice the level of public expenditure on private institutions at the pre-primary level, somewhat under twice the level at the primary, secondary and post-secondary non-tertiary level, and more than three times the level at the tertiary level.

Policy context

The balance of private and public financing of education is an important policy issue in many OECD countries for a range of reasons. It is especially relevant for pre-primary and tertiary education, for which full or nearly full public funding is less common.

As new client groups participate in a wider range of educational programmes and choose among more opportunities offered by increasing numbers of providers, governments are forging new partnerships to mobilise the necessary resources for education and to share costs and benefits more equitably. As a result, public funding more often provides only a part (albeit a very large part) of the investment in education, and the role of private sources has become more important. Some stakeholders are concerned that this balance should become so tilted as to discourage potential students from entering tertiary education. Changes in a country's shares of public and private funding can provide important information on changing patterns and levels of participation in its educational system.

Evidence and explanations

What this indicator does and does not cover

Governments can direct public funds to educational institutions or provide subsidies to private entities for the purpose of education. When reporting on the public and private proportions of educational expenditure, it is therefore important to distinguish between the initial sources of funds and the final direct purchasers of educational goods and services.

Initial public spending includes both direct public expenditure on educational institutions and transfers to the private sector. Initial private spending includes tuition fees and other student or household payments to educational institutions, minus support provided through public subsidies. Final public spending includes direct public purchases of educational resources and payments to educational institutions and other private entities. Final private spending includes tuition fees and other private payments to educational institutions, including expenditure for research and development.

Not all spending on instructional goods and services occurs within educational institutions. For example, families may purchase commercial textbooks and materials or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living expenses and foregone earnings can also account for a significant proportion of the costs of education. All expenditure outside educational institutions, even if publicly subsidised, is excluded from this indicator. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Public and private expenditure on educational institutions at all levels of education

Educational institutions in OECD countries are still mainly publicly funded, although there is a substantial and growing level of private funding at the tertiary level. On average in OECD countries, 83% of all funds for educational institutions come directly from public sources. In addition, 2.8% of funds are channelled to educational institutions via public subsidies to households (Table B3.1).

In all OECD countries for which comparable data are available, private funding on educational institutions represents around 17% of all expenditure, on average. The proportion varies widely among countries and only nine OECD countries and two partner countries report a share of private funding above the OECD average. Nevertheless, in Canada and the partner country Israel, private funds constitute around one-quarter of all educational expenditure. They exceed 30% in Australia, Chile, Japan, Korea, the United Kingdom and the United States (Table B3.1).

In all countries for which comparable data are available, public funding increased between 2000 and 2007 for all levels of education combined. However, private spending increased even more than public funding in more than three-quarters of these countries. As a result, the decrease in the share of public funding on educational institutions was more than 5 percentage points in Canada, Mexico, Portugal, the Slovak Republic and the United Kingdom. This decrease is mainly due to a significant increase in the tuition fees charged by tertiary educational institutions over the period 2000-07.

It is noteworthy that decreases in the share of public expenditure in total expenditure on educational institutions and, consequently, increases in the share of private expenditure, have not generally gone hand in hand with cuts (in real terms) in public expenditure on educational institutions (Table B3.1). In fact, many of the OECD countries with the highest growth rates in private spending have also had the highest increases in public funding. This indicates that an increase in private spending tends not to replace public investment but to complement it.

However, the share of private expenditure on educational institutions varies across countries and according to the level of education.

Public and private expenditure on pre-primary, primary, secondary and post-secondary non-tertiary educational institutions

Investment in early childhood education is essential for building a strong foundation for lifelong learning and for ensuring equitable access to learning opportunities later in school. In pre-primary education, the private share of total payments to educational institutions is 20% on average and thus higher than the percentage for all levels of education combined. However, this proportion varies widely among countries, ranging from 5% or less in Belgium, the Netherlands, Sweden and the partner country Estonia, to 25% or more in Austria, Chile, Germany, Iceland and the partner country the Russian Federation, to over 50% in Australia, Japan and Korea (Table B3.2a).

Public funding dominates the primary, secondary and post-secondary non-tertiary levels of education in OECD and partner countries. Among OECD countries it reaches 90% on average. Nevertheless, private funding exceeds 10% in Australia, Canada, Chile, Germany, Japan, Korea, Mexico, the Netherlands, New Zealand, the Slovak Republic, Switzerland and the United Kingdom (Table B3.2a and Chart B3.2). This may reflect the fact that primary, secondary and post-secondary non-tertiary education is usually perceived as a public good. At these levels in most countries, the largest share of private expenditure is household expenditure and it goes mainly towards tuition. In Germany, the Netherlands and Switzerland, however, most private expenditure takes the form of contributions from the business sector to the dual system of apprenticeship at the upper secondary and post-secondary non-tertiary levels (see Box B3.1).

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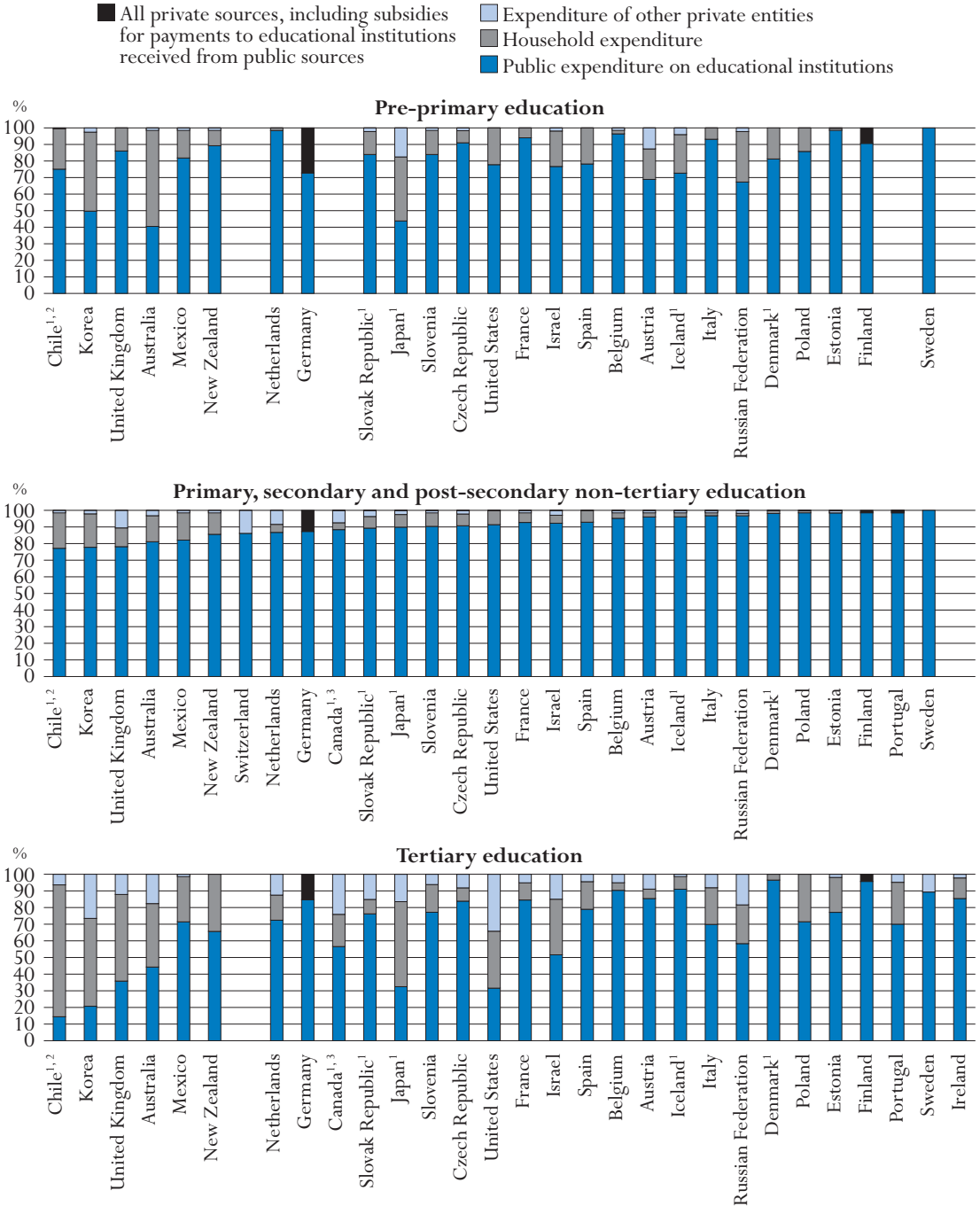
Chart B3.2. Distribution of public and private expenditure on educational institutions (2007)

By level of education



1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Year of reference 2008.
3. Year of reference 2006.

Countries are ranked in ascending order of the proportion of public expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Box 3.1. Private expenditure for the work-based component of educational programmes

Many countries have some form of combined school- and work-based educational programmes (*e.g.* apprenticeship programmes). However, a quick survey, undertaken by the Netherlands, of countries with some form of dual educational systems has shown that 9 out of 14 – Australia, Austria, Belgium (Flemish Community), the Czech Republic, Denmark, France, Hungary, Iceland and Norway – are unable to include private expenditure by enterprises relating to these programmes in the financial indicators published in *Education at a Glance*. However, Finland, Germany, the Netherlands, Switzerland and the United Kingdom are able to do so.

The size of the work-based component varies significantly among countries and can have a significant impact on total expenditure in some. Among countries with available data, Germany, the Netherlands and Switzerland have a significant proportion of all pupils (about 20% in the Netherlands, 50% in Germany and 60% in Switzerland) enrolled in combined school- and work-based programmes. The corresponding expenditure of these programmes represents between 0.3% and 0.5% of GDP (see Indicator B2). The comparability of the data for these three countries seems quite good. Further research is needed on other countries and on differences among countries in the way this type of education is organised and funded.

In the Netherlands these programmes are initial vocational training programmes and have an impact especially on expenditure for secondary education. The work-based component of these programmes varies. It accounts for between 20% and 80% of the total curriculum, and takes place in private enterprises and non-profit organisations. Expenditure on training of students in these firms and organisations is regarded as private expenditure on education. It is limited to expenditure on training *per se* (*e.g.* compensation of instructors and cost of instructional materials and equipment). Expenditure to train company instructors is also included. Salaries or other compensation paid to students or apprentices are not included, since it is assumed that these are compensation for their productive capacity. This corresponds to the UOE guidelines.

For more information on vocational programmes see Indicator C1.

Between 2000 and 2007, 14 out of the 25 OECD and partner countries for which comparable data are available showed a small decrease in the share of public funding at primary, secondary and post-secondary non-tertiary levels. Among these countries, the increase in the private share is 3 percentage points or more in Canada (from 7.6% to 11.6%), Korea (from 19.2% to 22.2%), Mexico (from 13.9% to 17.9%), the Slovak Republic (from 2.4% to 10.7%), Switzerland (from 10.8% to 13.9%) and the United Kingdom (from 11.3% to 21.9%). Funding shifts in the opposite direction, towards public funding, are evident in the other eight countries; however, this share increased by 3 percentage points or more only in Chile (from 68.4% to 77.2%) and Poland (from 95.4% to 98.6%) (Chart B3.3 and Table B3.2a).

In spite of such differences in the share of public funding at primary, secondary and post-secondary non-tertiary levels between 2000 and 2007, public expenditure on educational institutions increased in all countries with comparable data except Portugal. In contrast with general trends,

increases in public expenditure have been accompanied by decreases in private expenditure in Chile, Germany, Poland, Portugal, and Sweden, for all these levels of education combined. However, in 2007 the share of private expenditure on educational institutions represented less than 5% in all of these countries except Chile and Germany.

Public and private expenditure on tertiary educational institutions

At the tertiary level, high private returns (see Indicator A7) suggest that a greater contribution by individuals and other private entities to the costs of tertiary education may be justified so long as there are ways to ensure that funding is available to students irrespective of their economic background (see Indicator B5). In all OECD and partner countries, the private proportion of educational expenditure is far higher at the tertiary level than at the primary, secondary and post-secondary non-tertiary levels. It represents on average 31% of total expenditure on educational institutions at this level (Tables B3.2a and B3.2b).

The proportion of expenditure on tertiary institutions covered by individuals, businesses and other private sources, including subsidised private payments, ranges from less than 5% in Denmark, Finland and Norway, to more than 40% in Australia, Canada, Japan, the United Kingdom, the United States and the partner countries Israel and the Russian Federation, and to over 75% in Chile and Korea (Chart B3.2 and Table B3.2b). In Korea, around 80% of tertiary students are enrolled in private universities, and more than 70% of the budget comes from tuition fees. The contribution of private entities other than households to the financing of educational institutions is on average higher for tertiary education than for other levels of education.

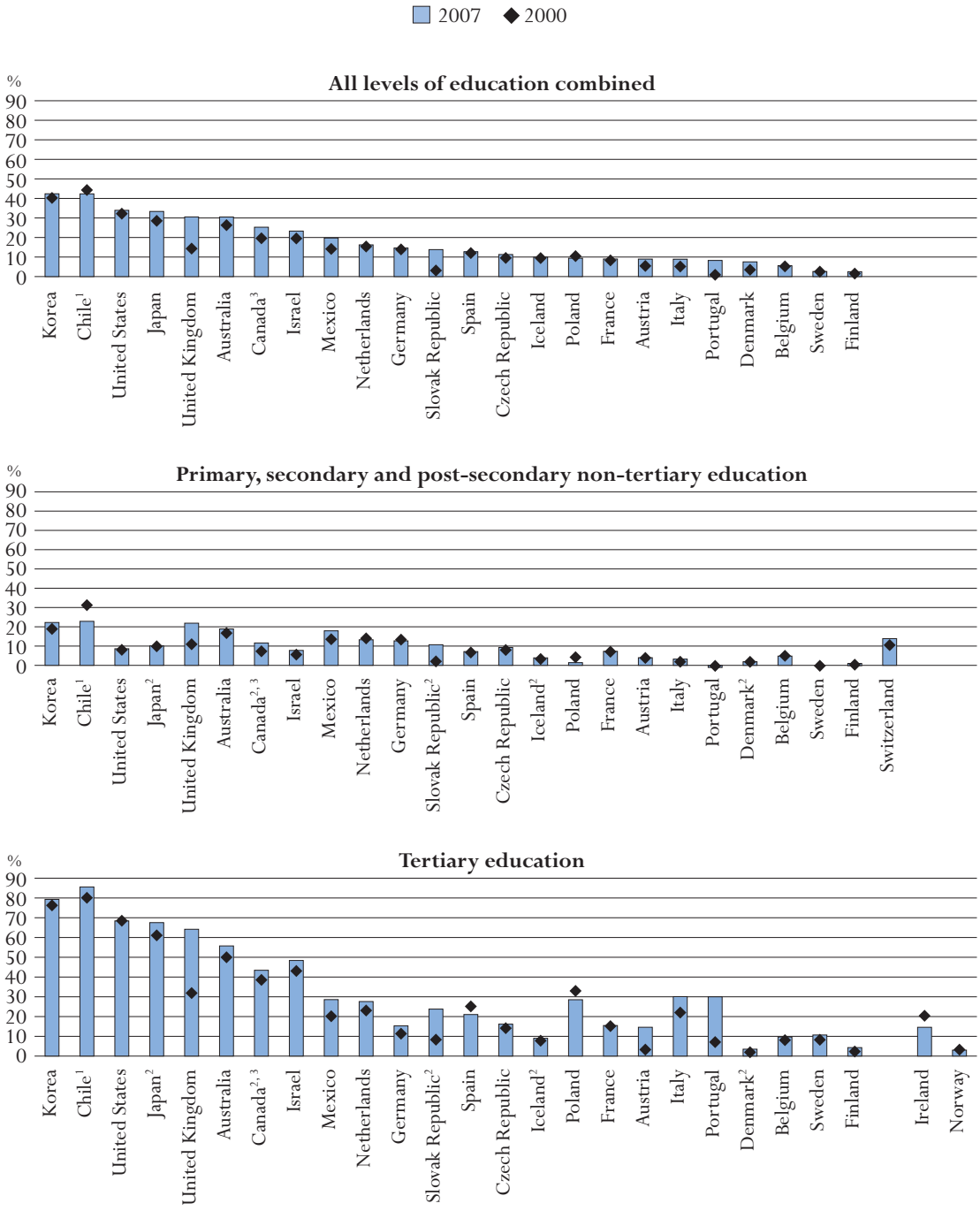
In Australia, Canada, Japan, Korea, the Netherlands, the Slovak Republic, Sweden, the United Kingdom, the United States and the partner countries Israel and the Russian Federation, 10% or more of expenditure on tertiary institutions is covered by private entities other than households. In Sweden, these contributions are to a large extent directed to sponsoring R&D.

In many OECD countries, the rise in participation in tertiary education (see Indicator C1) reflects a response to strong individual and social demand. In 2007, the share of public funding at the tertiary level represented on average, 69% in OECD countries. On average among the 17 OECD countries for which trend data are available for all reference years, the share of public funding on tertiary institutions decreased slightly from 78% in 1995 to 76% in 2000 and to 71% in 2006 and 70% in 2007. This trend is apparent primarily in non-European countries where tuition fees are generally higher and enterprises participate more actively, largely through grants to tertiary institutions (Table B3.3, Chart B3.3 and Indicator B5).

In 12 out of the 20 OECD and partner countries with comparable data for 1995 and 2007, the private share of educational expenditure increased by 3 percentage points or more. This increase exceeded 9 percentage points in Australia, Austria, Chile, Italy, Portugal, the Slovak Republic and the United Kingdom. Only the Czech Republic and Ireland – and to a lesser extent Norway and Spain – show a significant decrease in private expenditure on tertiary educational institutions (Table B3.3). In Australia, the main reason for the increase in the private share of spending on tertiary institutions between 1995 and 2007 was changes to the Higher Education Contribution Scheme/ Higher Education Loan Programme (HECS/HELP) implemented in 1997. In Ireland, tuition fees in tertiary first degree programmes were gradually eliminated over the last decade, leading to the decrease in the private share of spending at this level (for more details see Indicator B5 and Annex 3).

Chart B3.3. Share of private expenditure on educational institutions (2000, 2007)

Percentage



1. Year of reference 2008 instead of 2007.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2006 instead of 2007.

Countries are ranked in descending order of the share of private expenditure on educational institutions in 2007 for all levels of education.

Source: OECD. Tables B3.1, B3.2a and B3.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310320

Increases in private expenditure on educational institutions have generally gone hand in hand with increases (in real terms) in public expenditure on educational institutions at the tertiary level, as they have for all levels of education combined. Public investment in tertiary education has increased in all OECD and partner countries for which data for 2000 and 2007 are available except Japan, regardless of the changes in private spending (Table B3.2b). Notably, in 8 out of the 11 OECD countries with the largest increases in public expenditure on tertiary education (Austria, the Czech Republic, Hungary, Iceland, Mexico, Poland, the Slovak Republic and Spain), tertiary institutions charge low or no tuition fees and tertiary attainment is relatively low (see Indicators A1 and B5). By contrast, in Korea, New Zealand and the United States, where public spending has also increased significantly, there is a strong reliance on private funding of tertiary education (Table B3.2b).

Public expenditure on educational institutions per student by type of institution

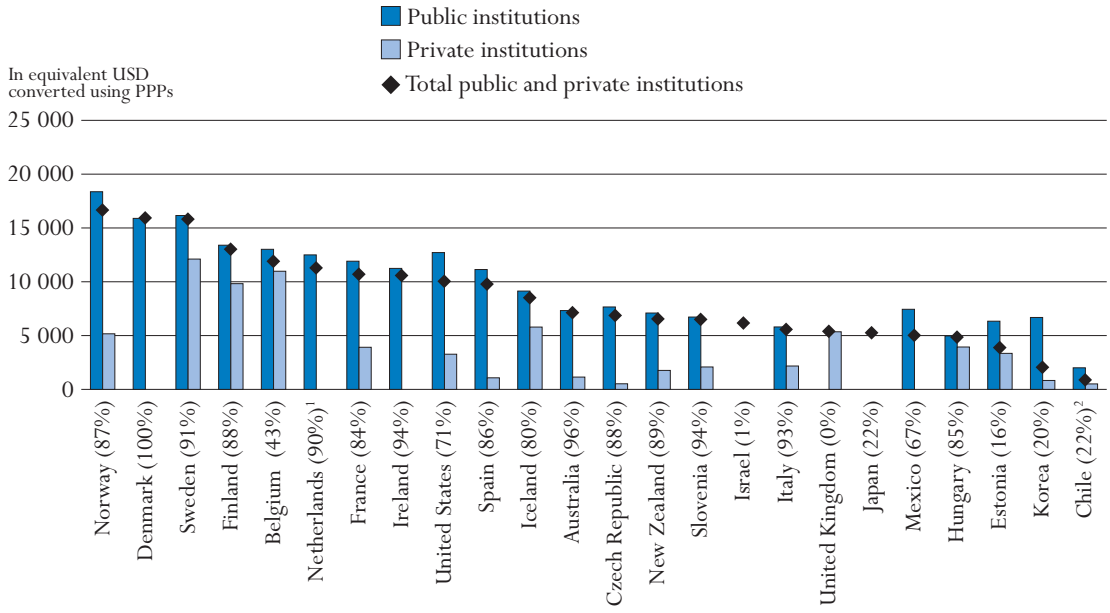
The level of public expenditure shows the value government places on education. Naturally, public funds go to public institutions, but in some cases a significant part of the public budget may be devoted to private educational institutions (private funds are excluded from Table B3.4, although they represent in some countries a significant share of the resources of educational institutions, especially at the tertiary level). Table B3.4 shows public investment on educational institutions relative to the size of the education system (by focusing on public expenditure on public and private educational institutions per student). It can thus be considered as a measure that is complementary to public expenditure relative to national income (see Indicator B2).

On average among OECD countries, all levels of education combined, public expenditure on public institutions per student is more than twice the public expenditure on private institutions per student (USD 7 261 and USD 3 786, respectively). However, the difference varies according to the level of education. Public expenditure on public institutions per student is more than twice the level on private institutions at the pre-primary level (USD 5 562 and USD 2 566, respectively), somewhat under twice the level at the primary, secondary and post-secondary non-tertiary level (USD 7 262 and USD 4 045, respectively) and more than three times the level at the tertiary level (USD 10 424 and USD 3 417, respectively).

At the pre-primary level, public expenditure per student (for both public and private institutions) averages USD 4 234 but varies from about USD 1 619 in Mexico to more than USD 6 500 in the United Kingdom and in the partner country Slovenia. Public expenditure per student is usually higher on public institutions than on private institutions, except in Denmark (USD 4 528 and USD 5 061, respectively, but private institutions enrol less than 5% of pupils). In contrast, in Mexico and the Netherlands, public expenditure per student on private institutions is negligible.

At the primary, secondary and post-secondary non-tertiary level of education (the level with the largest proportion of public funds, see Table B3.2a), public expenditure per student (on both public and private institutions) averages USD 6 611 but varies from less than USD 1 800 in Mexico to more than USD 10 000 in Norway and the United States. Public expenditure per student is usually higher on public than on private institutions except in Hungary, Korea, Sweden and the partner country Israel. In these three OECD countries, only 9% to 17% of pupils are enrolled in private institutions; in Israel, a quarter of pupils are enrolled in private institutions. In Ireland, Mexico and the Netherlands, public expenditure on private institutions per student is small or negligible, as the private sector is marginal and receives negligible or no public funds.

Chart B3.4. Annual public expenditure on educational institutions per student in tertiary education, by type of institution (2007)



Note: The figures into brackets represent the percentage of students enrolled in public institutions in tertiary education, based on full-time equivalents.
1. Government-dependent institutions are included with public institutions.
2. Year of reference 2008.
Countries are ranked in descending order of public expenditure on public and private educational institutions per student.
Source: OECD. Table B3.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310320

At the tertiary level, public expenditure per student (on both public and private institutions) averages USD 8 467 but varies from less than USD 1 000 in Chile to more than USD 15 000 in Denmark, Norway and Sweden, three countries in which the level of private expenditure is small or negligible at this level. In all countries with available data, public expenditure per student is higher on public than on private institutions (Table B3.4).

At the tertiary level, patterns in the allocation of public funds to public and private institutions differ. In Denmark, Ireland and the Netherlands, at least 90% of tertiary-level students are enrolled in public institutions and most public expenditure goes to these institutions. Public expenditure on public institutions per student is higher than the OECD average and public expenditure on private institutions per student is negligible. In these countries, private funds complement public funds to varying degrees: private expenditure is less than 5% of expenditure for public and private educational institutions in Denmark, about 15% in Ireland and above 25% in the Netherlands (Chart B3.4 and Table B3.2b).

In Belgium, Finland, Hungary, Iceland, Sweden and the partner country Estonia, public expenditure goes to both public and private institutions, and public expenditure on private institutions per student represents at least 50% and up to 89% of the level of public expenditure on public institutions per student. However, these countries show different patterns. In Finland, Hungary, Iceland and Sweden, most students are enrolled in public institutions (80% or more),

whereas in Belgium and the partner country Estonia, tertiary students are mainly enrolled in private institutions. In all these countries private expenditure on tertiary institutions is below the OECD average (Chart B3.4 and Table B3.2b).

In the remaining countries, public expenditure goes mainly to public institutions and public expenditure on private institutions per student is less than 40% of public expenditure on public institutions per student.

Definitions and methodologies

Data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

The public and private proportions of expenditure on educational institutions are the percentages of total spending originating in, or generated by, the public and private sectors. Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not. Public subsidies attributable to households, included in private spending, are shown separately.

A portion of the budgets of educational institutions is related to ancillary services offered to students, including student welfare services (student meals, housing and transport). Part of the cost of these services is covered by fees collected from students and is included in the indicator.

Other private entities include private businesses and non-profit organisations, *e.g.* religious organisations, charitable organisations and business and labour associations. Expenditure by private companies on the work-based element of school- and work-based training of apprentices and students is also taken into account.

The data on expenditure for 1995 and 2000 were obtained by a special survey updated in 2009, in which expenditure for 1995 and 2000 were adjusted to the methods and definitions used in the current UOE data collection.

Table B3.4 shows how public expenditure goes to public and private institutions, and presents public expenditure per student in public institutions, private institutions and total public and private institutions. Public expenditure is related to all students at public and private institutions, whether these institutions receive public funding or not.

Table B3.1.

Relative proportions of public and private expenditure on educational institutions, for all levels of education (2000, 2007)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		2007					2000		Index of change between 2000 and 2007 in expenditure on educational institutions	
			Private sources							
		Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: *of which*, subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	**69.5**	23.0	7.5	**30.5**	4.4	73.2	26.8	120	143
	Austria	**91.0**	4.8	4.1	**9.0**	4.6	94.0	6.0	108	168
	Belgium	**94.4**	4.4	1.2	**5.6**	1.7	94.3	5.7	115	112
	Canada[2]	**74.7**	10.7	14.6	**25.3**	0.5	79.9	20.1	111	149
	Chile[3]	**57.7**	40.0	2.3	**42.3**	1.2	55.2	44.8	139	125
	Czech Republic	**88.7**	7.6	3.7	**11.3**	m	89.9	10.1	147	167
	Denmark	**92.5**	3.9	3.6	**7.5**	m	96.0	4.0	115	225
	Finland	**97.5**	x(4)	x(4)	**2.5**	n	98.0	2.0	124	152
	France	**91.0**	7.1	1.9	**9.0**	1.7	91.2	8.8	106	108
	Germany	**85.4**	x(4)	x(4)	**14.6**	m	85.6	14.4	105	106
	Greece	**m**	m	m	**m**	m	93.8	6.2	m	m
	Hungary	**m**	m	m	**m**	m	m	m	146	m
	Iceland	**90.1**	8.6	1.3	**9.9**	m	90.0	10.0	149	149
	Ireland	**m**	m	m	**m**	m	m	m	160	m
	Italy	**91.1**	7.3	1.6	**8.9**	1.4	94.3	5.7	101	164
	Japan	**66.7**	21.7	11.6	**33.3**	m	71.0	29.0	101	124
	Korea	**57.6**	30.8	11.5	**42.4**	2.1	59.2	40.8	154	164
	Luxembourg	**m**	m	m	**m**	m	m	m	m	m
	Mexico	**80.3**	19.5	0.2	**19.7**	1.2	85.3	14.7	127	182
	Netherlands	**83.8**	7.3	8.9	**16.2**	1.5	84.1	15.9	123	126
	New Zealand	**80.6**	19.1	0.2	**19.4**	m	m	m	109	m
	Norway	**m**	m	m	**m**	m	95.0	5.0	126	m
	Poland	**90.6**	9.4	m	**9.4**	m	89.0	11.0	127	107
	Portugal	**91.7**	6.9	1.3	**8.3**	m	98.6	1.4	m	m
	Slovak Republic	**86.2**	7.9	5.9	**13.8**	1.7	96.4	3.6	130	555
	Spain	**87.3**	11.7	1.1	**12.7**	0.4	87.4	12.6	128	130
	Sweden	**97.4**	n	2.6	**2.6**	n	97.0	3.0	120	102
	Switzerland	**m**	m	m	**m**	m	92.1	7.9	109	141
	Turkey	**m**	m	m	**m**	m	98.6	1.4	m	m
	United Kingdom	**69.5**	20.1	10.4	**30.5**	19.7	85.2	14.8	109	274
	United States	**66.1**	19.9	14.0	**33.9**	m	67.3	32.7	125	131
	OECD average	*82.6*	~	~	*17.4*	*2.8*	~	~	*123*	*165*
	EU19 average	*89.2*	~	~	*10.8*	*3.3*	~	~	*123*	*178*
Partner countries	Brazil	**m**	m	m	**m**	m	m	m	166	m
	China	**m**	m	m	**m**	m	m	m	m	m
	Estonia	**93.5**	6.0	0.5	**6.5**	1.4	m	m	148	m
	India	**m**	m	m	**m**	m	m	m	m	m
	Indonesia	**m**	m	m	**m**	m	m	m	m	m
	Israel	**76.7**	16.7	6.5	**23.3**	2.3	80.0	20.0	112	136
	Russian Federation	**82.5**	12.1	5.4	**17.5**	m	m	m	326	m
	Slovenia	**86.7**	11.6	1.7	**13.3**	n	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
2. Year of reference 2006 instead of 2007.
3. Year of reference 2008 instead of 2007.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B3.2a.

Relative proportions of public and private expenditure on educational institutions, as a percentage, by level of education (2000, 2007)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		Pre-primary education (for children 3 years and older)					Primary, secondary and post-secondary non-tertiary education							Index of change between 2000 and 2007 in expenditure on educational institutions	
		2007					2007					2000			
		Public sources	Private sources			Private: *of which*, subsidised	Public sources	Private sources			Private: *of which*, subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
			Household expenditure	Expenditure of other private entities	All private sources[1]			Household expenditure	Expenditure of other private entities	All private sources[1]					
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD countries	Australia	**40.5**	59.1	0.4	**59.5**	5.6	**81.1**	15.7	3.2	**18.9**	6.1	82.9	17.1	121	137
	Austria	**68.9**	18.4	12.7	**31.1**	19.5	**96.0**	2.8	1.2	**4.0**	1.4	95.8	4.2	105	100
	Belgium	**96.4**	3.4	0.2	**3.6**	0.7	**95.2**	4.6	0.2	**4.8**	1.2	94.7	5.3	114	103
	Canada[2, 3]	**x(6)**	x(7)	x(8)	**x(9)**	x(6)	**88.4**	4.1	7.5	**11.6**	x(6)	92.4	7.6	115	182
	Chile[4]	**75.1**	24.5	m	**24.9**	n	**77.2**	22.3	0.6	**22.8**	n	68.4	31.6	138	88
	Czech Republic	**91.0**	7.3	1.7	**9.0**	m	**90.7**	7.1	2.2	**9.3**	m	91.7	8.3	133	150
	Denmark[3]	**81.2**	18.8	n	**18.8**	m	**98.1**	1.9	n	**1.9**	m	97.8	2.2	116	101
	Finland	**90.6**	x(4)	x(4)	**9.4**	n	**99.0**	x(9)	x(9)	**1.0**	n	99.3	0.7	126	186
	France	**94.0**	6.0	n	**6.0**	n	**92.7**	6.2	1.1	**7.3**	1.7	92.6	7.4	103	101
	Germany	**72.8**	x(4)	x(4)	**27.2**	n	**87.3**	x(9)	x(9)	**12.7**	m	86.3	13.7	101	93
	Greece	**m**	m	m	**m**	m	**m**	m	n	**m**	m	91.7	8.3	m	m
	Hungary	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	151	m
	Iceland[3]	**72.7**	23.3	4.0	**27.3**	n	**96.1**	3.6	0.2	**3.9**	n	96.4	3.6	144	156
	Ireland	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	176	m
	Italy	**93.1**	6.9	n	**6.9**	n	**96.8**	3.2	n	**3.2**	0.4	97.8	2.2	103	154
	Japan[3]	**43.8**	38.7	17.5	**56.2**	m	**89.9**	7.6	2.5	**10.1**	m	89.8	10.2	102	101
	Korea	**49.7**	47.7	2.6	**50.3**	15.0	**77.8**	20.1	2.1	**22.2**	1.1	80.8	19.2	151	181
	Luxembourg	**m**	m	m	**m**	a	**m**	m	m	**m**	m	m	m	m	m
	Mexico	**81.8**	18.1	0.1	**18.2**	0.2	**82.1**	17.8	0.1	**17.9**	1.4	86.1	13.9	122	166
	Netherlands	**98.5**	1.5	a	**1.5**	1.0	**86.7**	4.8	8.4	**13.3**	2.1	85.7	14.3	126	115
	New Zealand	**89.2**	10.2	0.6	**10.8**	m	**85.6**	14.2	0.3	**14.4**	m	m	m	100	m
	Norway	**82.6**	17.4	m	**17.4**	n	**m**	m	m	**m**	m	99.0	1.0	114	m
	Poland	**85.8**	14.2	m	**14.2**	n	**98.6**	1.4	m	**1.4**	m	95.4	4.6	120	35
	Portugal	**m**	m	m	**m**	m	**99.9**	0.1	m	**0.1**	m	99.9	0.1	97	93
	Slovak Republic[3]	**83.9**	13.9	2.2	**16.1**	1.0	**89.3**	7.0	3.7	**10.7**	1.3	97.6	2.4	131	643
	Spain	**78.2**	21.8	m	**21.8**	n	**92.9**	7.1	m	**7.1**	m	93.0	7.0	117	119
	Sweden	**100.0**	n	n	**n**	n	**100.0**	n	a	**n**	a	99.9	0.1	116	n
	Switzerland	**m**	m	m	**m**	a	**86.1**	n	13.9	**13.9**	1.4	89.2	10.8	106	141
	Turkey	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	m	m
	United Kingdom	**86.1**	13.9	n	**13.9**	43.5	**78.1**	11.3	10.6	**21.9**	18.9	88.7	11.3	120	264
	United States	**77.8**	22.2	a	**22.2**	a	**91.4**	8.6	m	**8.6**	a	91.6	8.4	121	124
	OECD average	*79.7*	~	~	*20.3*	*4.1*	*90.3*	~	~	*9.7*	*2.3*	~	~	*121*	*147*
	EU19 average	*87.2*	~	~	*12.8*	*3.2*	*93.4*	~	~	*6.6*	*1.5*	~	~	*124*	*157*
Partner countries	Brazil	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	181	m
	China	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	m	m
	Estonia	**98.8**	1.2	n	**1.2**	n	**98.8**	1.1	0.1	**1.2**	m	m	m	146	m
	India	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	m	m
	Indonesia	**m**	m	m	**m**	m	**m**	m	m	**m**	m	m	m	m	m
	Israel	**76.7**	21.4	1.9	**23.3**	n	**92.3**	4.8	3.0	**7.7**	1.4	94.1	5.9	112	149
	Russian Federation	**67.3**	30.5	2.2	**32.7**	m	**97.2**	1.0	1.8	**2.8**	m	m	m	322	m
	Slovenia	**83.9**	16.0	0.1	**16.1**	n	**90.4**	9.1	0.6	**9.6**	n	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
To calculate private funds net of subsidies, subtract public subsidies (Columns 5, 10) from private funds (Columns 4, 9).
To calculate total public funds, including public subsidies, add public subsidies (Columns 5, 10) to direct public funds (Columns 1, 6).
2. Year of reference 2006 instead of 2007.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2008 instead of 2007.
Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table B3.2b.

Relative proportions of public and private expenditure on educational institutions, as a percentage, for tertiary education (2000, 2007)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		Tertiary education								
		2007					2000		Index of change between 2000 and 2007 in expenditure on educational institutions	
			Private sources							
		Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: *of which,* subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	**44.3**	38.1	17.6	**55.7**	0.4	49.6	50.4	118	146
	Austria	**85.4**	5.7	8.9	**14.6**	8.1	96.3	3.7	130	577
	Belgium	**90.3**	4.6	5.1	**9.7**	4.1	91.5	8.5	110	126
	Canada[2, 3]	**56.6**	19.3	24.1	**43.4**	1.3	61.0	39.0	119	143
	Chile[4]	**14.4**	79.2	6.4	**85.6**	4.1	19.5	80.5	100	144
	Czech Republic	**83.8**	8.0	8.2	**16.2**	m	85.4	14.6	203	230
	Denmark[3]	**96.5**	3.5	n	**3.5**	n	97.6	2.4	121	180
	Finland	**95.7**	x(4)	x(4)	**4.3**	n	97.2	2.8	118	187
	France	**84.5**	10.3	5.1	**15.5**	2.7	84.4	15.6	115	114
	Germany	**84.7**	x(4)	x(4)	**15.3**	m	88.2	11.8	104	141
	Greece	**m**	m	m	**m**	m	99.7	0.3	m	m
	Hungary	**m**	m	m	**m**	m	m	m	133	m
	Iceland[3]	**91.0**	8.3	0.7	**9.0**	m	91.8	8.2	152	167
	Ireland	**85.4**	12.4	2.2	**14.6**	m	79.2	20.8	127	82
	Italy	**69.9**	22.0	8.1	**30.1**	5.7	77.5	22.5	100	148
	Japan[3]	**32.5**	51.1	16.5	**67.5**	m	38.5	61.5	97	126
	Korea	**20.7**	52.8	26.5	**79.3**	2.4	23.3	76.7	134	155
	Luxembourg	**m**	m	m	**m**	m	m	m	m	m
	Mexico	**71.4**	28.2	0.4	**28.6**	1.1	79.4	20.6	134	207
	Netherlands	**72.4**	15.1	12.5	**27.6**	0.1	76.5	23.5	115	143
	New Zealand	**65.7**	34.3	m	**34.3**	m	m	m	143	m
	Norway	**97.0**	3.0	m	**3.0**	m	96.3	3.7	115	93
	Poland	**71.5**	28.5	m	**28.5**	m	66.6	33.4	172	137
	Portugal	**70.0**	25.2	4.8	**30.0**	m	92.5	7.5	125	659
	Slovak Republic[3]	**76.2**	8.7	15.1	**23.8**	2.8	91.2	8.8	137	447
	Spain	**79.0**	16.6	4.4	**21.0**	1.8	74.4	25.6	134	104
	Sweden	**89.3**	n	10.7	**10.7**	a	91.3	8.7	114	143
	Switzerland	**m**	m	m	**m**	a	m	m	127	m
	Turkey	**m**	m	m	**m**	m	95.4	4.6	m	m
	United Kingdom	**35.8**	52.0	12.1	**64.2**	17.1	67.7	32.3	121	288
	United States	**31.6**	34.2	34.2	**68.4**	m	31.1	68.9	137	133
	OECD average	***69.1***	~	~	***30.9***	***3.0***	***75.7***	***24.3***	***127***	***201***
	EU19 average	***79.4***	~	~	***20.6***	***2.3***	***85.7***	***14.3***	***128***	***232***
Partner countries	Brazil	**m**	m	m	**m**	m	m	m	126	m
	China	**m**	m	m	**m**	m	m	m	m	m
	Estonia	**77.1**	21.0	1.9	**22.9**	5.6	m	m	158	m
	India	**m**	m	m	**m**	m	m	m	m	m
	Indonesia	**m**	m	m	**m**	m	m	m	m	m
	Israel	**51.6**	33.4	15.0	**48.4**	5.7	56.5	43.5	108	131
	Russian Federation	**58.3**	23.3	18.4	**41.7**	m	m	m	317	m
	Slovenia	**77.2**	16.7	6.2	**22.8**	n	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
To calculate private funds net of subsidies, subtract public subsidies (Column 5) from private funds (Column 4).
To calculate total public funds, including public subsidies, add public subsidies (Column 5) to direct public funds (Column 1).
2. Year of reference 2006 instead of 2007.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2008 instead of 2007.
Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
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Table B3.3.

Trends in relative proportions of public expenditure[1] on educational institutions and index of change between 1995 and 2007 (2000 = 100), for tertiary education (1995, 2000, 2002, 2004, 2006 and 2007)

		Share of public expenditure on educational institutions (%)						Index of change between 1995 and 2007 in public expenditure on educational institutions (2000 = 100, constant prices)					
		1995	2000	2002	2004	2006	2007	1995	2000	2002	2004	2006	2007
OECD countries	Australia	64.6	49.6	m	m	44.3	44.3	117	100	m	m	111	118
	Austria	96.1	96.3	91.6	93.7	84.5	85.4	96	100	103	120	122	130
	Belgium	m	91.5	86.1	90.4	90.6	90.3	m	100	98	99	108	110
	Canada[2]	56.6	61.0	56.4	55.1	56.6	m	69	100	98	105	119	m
	Chile[3]	25.1	19.5	19.3	15.5	16.1	14.4	78	100	112	103	98	100
	Czech Republic	71.5	85.4	87.5	84.7	82.1	83.8	86	100	122	145	182	203
	Denmark[2]	99.4	97.6	97.9	96.7	96.4	96.5	93	100	123	120	115	121
	Finland	97.8	97.2	96.3	96.3	95.5	95.7	90	100	104	115	117	118
	France	85.3	84.4	83.8	83.8	83.7	84.5	93	100	103	105	109	115
	Germany	89.2	88.2	m	m	m	m	96	100	m	m	102	m
	Greece[2]	m	99.7	99.6	97.9	m	m	63	100	154	196	m	m
	Hungary	80.3	76.7	78.7	79.0	77.9	m	77	100	122	120	133	133
	Iceland[2]	m	91.8	91.4	90.3	90.2	91.0	m	100	118	128	137	152
	Ireland	69.7	79.2	85.8	82.6	85.1	85.4	49	100	103	102	118	127
	Italy	82.9	77.5	78.6	72.6	72.2	69.9	85	100	111	101	103	100
	Japan[2]	35.1	38.5	35.3	36.6	32.2	32.5	80	100	94	102	95	97
	Korea	m	23.3	14.9	21.0	23.1	20.7	m	100	67	107	139	134
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	77.4	79.4	71.0	68.9	67.9	71.4	75	100	119	111	118	134
	Netherlands	79.4	76.5	74.9	75.0	73.4	72.4	99	100	103	108	111	115
	New Zealand	m	m	62.5	60.8	63.0	65.7	104	100	111	113	131	143
	Norway	93.7	96.3	96.3	100.0	m	97.0	107	100	117	124	111	115
	Poland	m	66.6	69.7	72.9	70.4	71.5	89	100	148	180	166	172
	Portugal	96.5	92.5	91.3	86.0	66.7	70.0	76	100	99	89	102	m
	Slovak Republic[2]	95.4	91.2	85.2	81.3	82.1	76.2	86	100	112	150	152	137
	Spain	74.4	74.4	76.3	75.9	78.2	79.0	72	100	111	119	125	134
	Sweden	93.6	91.3	90.0	88.4	89.1	89.3	84	100	107	113	114	114
	Switzerland	m	m	m	m	m	m	74	100	124	131	135	127
	Turkey	96.3	95.4	90.1	90.0	m	m	55	100	113	110	137	m
	United Kingdom	80.0	67.7	72.0	69.6	64.8	35.8	115	100	m	m	m	121
	United States	37.4	31.1	39.5	35.4	34.0	31.6	85	100	120	131	133	137
	OECD average	*77.3*	*75.7*	*74.9*	*74.1*	*68.8*	*68.9*	*85*	*100*	*112*	*120*	*123*	*128*
	OECD average for countries with data available for all reference years	*78.1*	*75.8*	*77.3*	*75.6*	*71.4*	*69.7*	*85*	*100*	*114*	*121*	*125*	*130*
	EU19 average for countries with data available for all reference years	*85.1*	*83.9*	*84.0*	*82.2*	*79.6*	*77.4*	*85*	*100*	*113*	*123*	*128*	*132*
Partner countries	Brazil	m	m	m	m	m	m	78	100	102	101	124	126
	Estonia	m	m	m	m	73.1	77.1	69	100	m	112	121	158
	Israel	59.2	56.5	53.4	49.6	50.1	51.6	81	100	96	93	99	108
	Russian Federation	m	m	m	m	m	58.3	m	100	143	173	259	317
	Slovenia	m	m	m	75.7	76.9	77.2	m	m	m	m	m	m

1. Excluding international funds in public and total expenditure on educational institutions.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2008 instead of 2007.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B3.4.

Annual public expenditure on educational institutions per student, by type of institution (2007)

In equivalent USD converted using PPPs for GDP, by level of education and type of institution

		Pre-primary education			Primary, secondary and post-secondary non-tertiary education			Tertiary education				Total all levels of education		
		Public institutions	Private institutions	Total public and private	Public institutions	Private institutions	Total public and private	Public institutions	Private institutions	Total public and private	*of which:* R&D activities	Public institutions	Private institutions	Total public and private
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
OECD countries	Australia	x(3)	x(3)	**2 634**	6 980	3 616	**5 931**	7 324	1 143	**7 087**	4 876	x(13)	x(13)	**6 090**
	Austria	x(3)	x(3)	**4 415**	x(6)	x(6)	**9 563**	x(9)	x(9)	**12 845**	4 487	x(13)	x(13)	**9 418**
	Belgium	5 404	4 744	**5 057**	8 882	7 281	**7 931**	13 016	10 978	**11 860**	3 703	9 172	7 501	**8 204**
	Canada[1]	x(6)	x(6)	**x(6)**	x(6)	x(6)	**7 524**	20 278	m	**m**	m	m	m	**m**
	Chile[2]	4 444	1 711	**2 823**	2 816	1 507	**2 082**	2 005	508	**838**	189	2 875	1 295	**1 923**
	Czech republic	3 374	2 905	**3 368**	4 388	2 722	**4 275**	7 659	520	**6 826**	1 310	4 938	2 073	**4 740**
	Denmark	4 528	5 061	**4 545**	9 759	5 896	**9 272**	15 890	a	**15 890**	x(9)	9 923	5 840	**9 560**
	Finland	4 450	3 188	**4 341**	7 178	6 724	**7 145**	13 397	9 824	**12 983**	4 390	7 905	7 067	**7 836**
	France	5 487	3 171	**5 198**	8 129	4 870	**7 488**	11 910	3 914	**10 657**	3 604	8 222	4 537	**7 565**
	Germany	m	m	**m**	m	m	**m**	m	m	**m**	m	m	m	**m**
	Greece	m	m	**m**	m	m	**m**	m	m	**m**	m	m	m	**m**
	Hungary	4 013	2 696	**3 942**	4 075	4 977	**4 182**	4 967	3 938	**4 812**	981	4 418	4 586	**4 437**
	Ireland	m	m	**m**	7 669	n	**7 622**	11 242	n	**10 540**	x(9)	8 257	n	**8 126**
	Iceland	6 657	4 488	**6 455**	8 712	5 508	**8 600**	9 136	5 791	**8 472**	x(9)	9 020	5 458	**8 775**
	Italy[3]	7 133	844	**5 114**	7 623	1 174	**7 252**	5 802	2 172	**5 531**	3 061	7 228	1 152	**6 622**
	Japan	x(3)	x(3)	**2 218**	x(6)	x(6)	**7 305**	x(9)	x(9)	**5 218**	x(9)	x(13)	x(13)	**6 834**
	Korea	6 520	669	**1 950**	5 063	5 426	**5 124**	6 682	829	**2 012**	625	5 876	2 217	**4 508**
	Luxembourg	x(4)	m	**m**	15 579	m	**m**	m	m	**m**	m	m	m	**m**
	Mexico	1 908	1	**1 619**	2 001	7	**1 777**	7 442	a	**4 979**	1 109	2 385	4	**2 064**
	Netherlands[4]	6 176	n	**6 152**	7 546	n	**7 332**	12 497	n	**11 246**	4 518	8 133	n	**7 830**
	New Zealand	x(3)	x(3)	**4 627**	4 826	2 755	**4 667**	7 096	1 763	**6 505**	1 366	5 253	3 279	**4 969**
	Norway	5 638	3 907	**4 862**	10 904	9 833	**10 856**	18 367	5 165	**16 621**	6 284	11 806	8 665	**11 463**
	Poland	x(3)	x(3)	**3 608**	x(6)	x(6)	**3 583**	x(9)	x(9)	**3 262**	682	x(13)	x(13)	**3 519**
	Portugal	m	m	**m**	m	m	**m**	m	m	**m**	m	m	m	**m**
	Slovak Republic	2 839	2 450	**2 829**	2 923	2 689	**2 905**	4 153	m	**4 153**	677	3 198	2 710	**3 168**
	Spain	6 989	1 969	**5 185**	8 802	3 147	**7 041**	11 138	1 075	**9 740**	3 594	8 937	2 719	**7 112**
	Sweden	5 754	5 185	**5 666**	8 649	10 003	**8 773**	16 157	12 109	**15 774**	7 082	9 187	9 058	**9 174**
	Switzerland	4 506	m	**m**	9 621	m	**m**	20 883	m	**m**	x(7)	10 782	m	**m**
	Turkey	m	m	**m**	m	m	**m**	m	m	**m**	m	m	m	**m**
	United Kingdom	8 940	629	**6 539**	7 634	2 758	**6 709**	a	5 352	**5 352**	m	7 713	3 783	**6 517**
	United States	10 910	m	**m**	x(6)	x(6)	**10 327**	12 712	3 269	**10 002**	x(9)	x(13)	x(13)	**10 037**
	OECD average	*5 562*	*2 566*	*4 234*	*7 262*	*4 045*	*6 611*	*10 424*	*3 417*	*8 467*	*2 919*	*7 261*	*3 786*	*6 687*
	EU19 average	*5 610*	*2 722*	*4 815*	*8 034*	*4 127*	*6 914*	*10 014*	*4 487*	*9 618*	*3 343*	*7 691*	*4 079*	*7 078*
Partner countries	Brazil	1 599	m	**m**	1 796	m	**m**	10 950	m	**m**	m	2 030	m	**m**
	Estonia	2 251	604	**2 206**	4 649	2 084	**4 578**	6 336	3 347	**3 840**	x(9)	4 305	3 198	**4 083**
	Israel	3 504	1 910	**3 022**	4 875	5 307	**4 983**	x(9)	x(9)	**6 123**	m	5 023	4 889	**4 973**
	Russian Federation	m	m	**m**	4 741	m	**m**	3 163	m	**m**	x(7)	5 978	m	**m**
	Slovenia	6 786	1 733	**6 690**	6 706	3 914	**6 674**	6 722	2 083	**6 460**	1 179	6 719	2 723	**6 633**

1. Year of reference 2006.
2. Year of reference 2008.
3. Exclude post-secondary non-tertiary education.
4. Government-dependent private institutions are included with public institutions.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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WHAT IS THE TOTAL PUBLIC SPENDING ON EDUCATION?

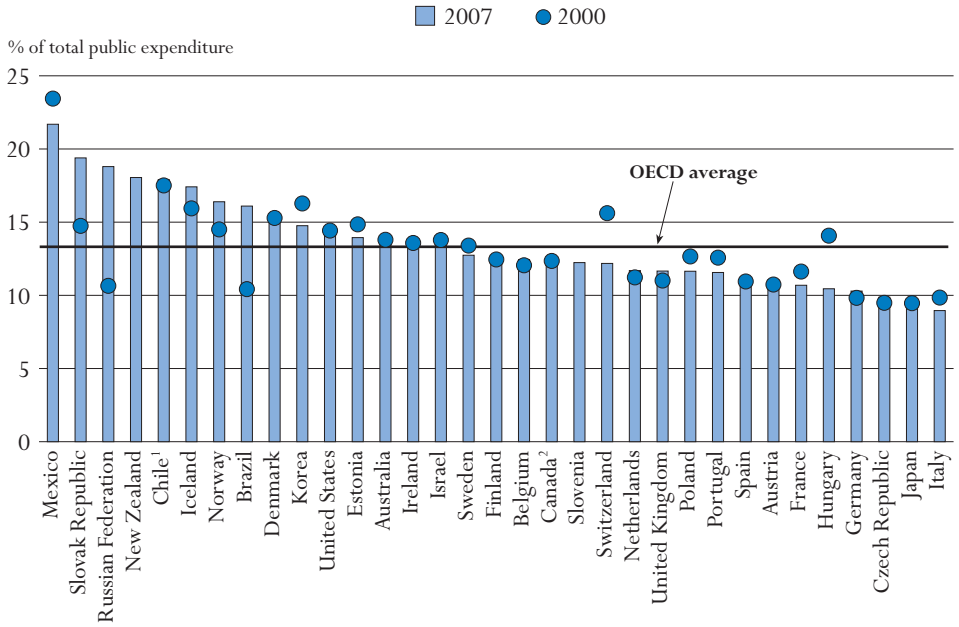
Public expenditure on education as a percentage of total public expenditure indicates the priority placed on education relative to other public areas of investment, such as health care, social security, defence and security. It provides an important context for other indicators on education expenditure, particularly for Indicator B3 (the public and private shares of educational expenditure), and is the quantification of an important policy lever.

Key results

Chart B4.1. Total public expenditure on education, as a percentage of total public expenditure (2000, 2007)

The chart shows direct public expenditure on educational institutions plus public subsidies to households (which include subsidies for living costs such as scholarships and grants to students/households and students loans), and other private entities, as a percentage of total public expenditure, by year. It must be recalled that public sectors differ in terms of their size and breadth of responsibility from country to country.

On average, OECD countries devote 13.3% of total public expenditure to education in 2007, but values for individual countries range from less than 10% in the Czech Republic, Italy and Japan, to nearly 22% in Mexico. The proportion of public expenditure on education increased between 1995 and 2007 in 18 of the 27 countries with comparable data in both 1995 and 2007. However, the main increase took place from 1995 to 2000, while public expenditure on education and on other public sectors increased in the same proportions from 2000 to 2007.



1. Year of reference 2008 instead of 2007.
2. Year of reference 2006 instead of 2007.

Countries are ranked in descending order of total public expenditure on education at all levels of education as a percentage of total public expenditure in 2007.

Source: OECD, Table B4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- Public funding of education is a social priority, even in OECD countries with little public involvement in other areas.
- Between 1995 and 2007, total public expenditure as a percentage of GDP tended to increase slightly. Education took a growing share of total public expenditure in most countries, and on average, it grew as fast as GDP. In Chile, Denmark, the Netherlands, the Slovak Republic, Sweden and the partner country Brazil, there have been particularly significant shifts in public funding in favour of education.
- The main increase in public expenditure on education relative to total public spending took place between 1995 and 2000 (0.9 percentage point on average in OECD countries), while from 2000 to 2007, public expenditure on education as a percentage of total public expenditure increased by 0.3 percentage point.
- In OECD countries, public expenditure on primary, secondary and post-secondary non-tertiary education is on average about three times that on tertiary education. This is mainly due to near universal enrolment rates below tertiary education, but also because the private share tends to be greater at the tertiary level. This ratio varies from two times or less in Canada, Denmark, Finland and Norway to more than five times in Chile and Korea. The latter figure is indicative of the relatively high proportion of private funds for tertiary education in these countries.

B4

Policy context

If the public benefits from a particular service are greater than the private benefits, markets alone may fail to provide that service adequately and governments may need to become involved. Education is one area in which all governments intervene to fund or direct the provision of services (see Indicator A9). As there is no guarantee that markets will provide equal access to educational opportunities, government funding of educational services ensures that education is not beyond the reach of some members of society.

This indicator focuses on public expenditure on education but also looks at how public expenditure has changed over time. Since the second half of the 1990s, most OECD countries have made serious efforts to consolidate public budgets. Education has had to compete with a wide range of other government-funded areas for available public resources. In a context of increased financial pressure, this may even increase in the following years. To track this evolution, the indicator evaluates the change in educational expenditure in absolute terms and relative to changes in the size of total public budgets.

Evidence and explanations

What this indicator does and does not cover

This indicator shows total public expenditure on education, which includes direct public expenditure on educational institutions as well as public subsidies to households (*e.g.* scholarships and loans to students for tuition fees and student living costs) and to other private entities for education (*e.g.* subsidies to companies or labour organisations that operate apprenticeship programmes). Unlike the preceding indicators in this chapter, this indicator also includes public subsidies that are not attributable to household payments for educational institutions, such as subsidies for student living costs.

OECD countries differ in the ways in which they use public money for education. Public funds may flow directly to institutions or may be channelled to institutions via government programmes or via households. They may also be restricted to the purchase of educational services or be used to support student living costs.

Though expenditure on debt servicing (*e.g.* interest payments) is included in total public expenditure, it is excluded from public expenditure on education. The reason is that some countries cannot separate interest payments for education from those for other services. This means that public expenditure on education as a percentage of total public expenditure may be underestimated in countries in which interest payments represent a large proportion of total public expenditure on all services.

Finally, it is important to examine public investment in education in conjunction with private investment, as shown in Indicator B3, to get a full picture of total investment in education.

Overall level of public resources invested in education

On average, OECD countries devoted 13.3% of total public expenditure to education in 2007. However, the share of educational expenditure for individual countries ranged from 10% or less in the Czech Republic, Italy and Japan to 21.7% in Mexico (Chart B4.1). As is the case with spending on education in relation to GDP per capita, these figures must be interpreted in the light of student demography and enrolment rates.

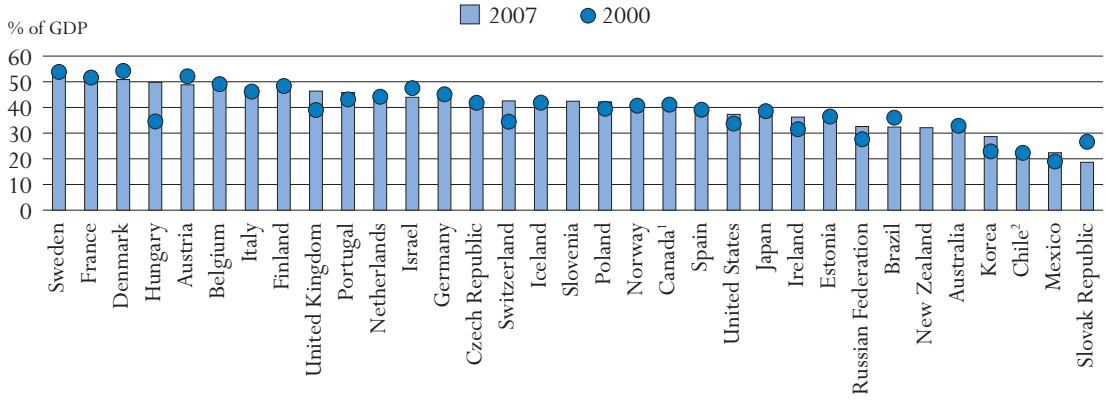
The public-sector proportion of funding of the different levels of education also varies widely among OECD countries. In 2007, OECD and partner countries allocated between 6.1% (the Czech Republic) and 14.6% (Mexico) of total public expenditure to primary, secondary and post-secondary non-tertiary education, and between 1.6% (Italy) and 5.3% (Norway) to tertiary education. On average in OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is nearly three times that of tertiary education, mainly owing to enrolment rates (see Indicator C1) and the demographic structure of the population or because the private share of expenditure tends to be higher at the tertiary level. This ratio varies by country, ranging from two times or less in Canada, Denmark, Finland and Norway to five times in Chile and Korea. The latter figure is indicative of the relatively high proportion of private funds for tertiary education in these countries (Table B4.1).

Public funding of education is a social priority, even in OECD countries with little public involvement in other areas. When public expenditure on education is considered as a proportion of total public spending, the relative sizes of public budgets (as measured by public spending in relation to GDP) must be taken into account.

When the size of public budgets relative to GDP in OECD countries is compared with the proportion of public spending on education, it is evident that even in countries with relatively low rates of public spending, education has a very high priority. For instance, the share of public spending allocated to education in Chile, Mexico, New Zealand, the Slovak Republic and the partner country the Russian Federation is among the highest in OECD countries (Chart B4.1), yet total public spending accounts for a relatively small proportion of GDP in these countries (Chart B4.2).

Although the overall pattern is unclear, there is some evidence to suggest that countries with high rates of public expenditure spend proportionately less on education; only one of the top ten countries for public spending on public services overall – Denmark – is among the top ten public spenders on education (Charts B4.1 and B4.2).

Chart B4.2. Total public expenditure on all services, as a percentage of GDP (2000, 2007)



Note: This chart represents public expenditure on all services and not simply public expenditure on education.
1. Year of reference 2006 instead of 2007.
2. Year of reference 2008 instead of 2007.
Countries are ranked in descending order of total public expenditure as a percentage of GDP in 2007.
Source: OECD. Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310339

From 1995 to 2007, public expenditure on education typically grew faster than total public spending and as fast as national income. The proportion of public expenditure on education increased over this period in 18 of the 27 countries with comparable data in both 1995 and 2007. At the same time, on average in these 27 countries, public expenditure on education as a percentage of GDP decreased slightly. However, the main increase in public expenditure on education relative to total public spending took place from 1995 to 2000, while public expenditure on education and on other public sectors increased in the same proportions from 2000 to 2007. Although budget consolidation has put pressure on all areas of public expenditure, the proportion of public budgets spent on education in OECD countries rose from 12.1% in 1995 to 13.3% in 2007. The greatest relative increases in the share of public expenditure on education during this period took place in Chile (14.5% to 17.9%), Denmark (12.2% to 15.4%), the Netherlands (9.1% to 11.7%), the Slovak Republic (14.1% to 19.4%), Sweden (10.7% to 12.7%) and the partner country Brazil (11.2% to 16.1%).

Definitions and methodologies

The data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Educational expenditure is expressed as a percentage of a country's total public sector expenditure and as a percentage of GDP. Public expenditure on education includes expenditure on educational institutions and subsidies for students' living costs and for other private expenditure outside institutions. Public expenditure on education includes expenditure by all public entities, including ministries other than ministries of Education, local and regional governments, and other public agencies.

Total public expenditure, also referred to as total public spending, corresponds to the non-repayable current and capital expenditure of all levels of government: central, regional and local. Current expenditure includes final consumption expenditure, property income paid, subsidies and other current transfers (*e.g.* social security, social assistance, pensions and other welfare benefits). Figures for total public expenditure have been taken from the *OECD National Accounts Database* (see Annex 2) and use the System of National Accounts 1993.

The glossary at *www.oecd.org/edu/eag2010* gives a definition of public, government-dependent private and independent private institutions.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310339

- ***Table B4.2. Distribution of total public expenditure on education (2007)***
- ***Table B4.3a. Initial sources of public educational funds and final purchasers of educational resources by level of government for primary, secondary and post-secondary non-tertiary education (2007)***
- ***Table B4.3b. Initial sources of public educational funds and final purchasers of educational resources by level of government for tertiary education (2007)***

Table B4.1.

Total public expenditure on education (1995, 2000, 2007)

Direct public expenditure on educational institutions plus public subsidies to households[1] and other private entities, as a percentage of GDP and as a percentage of total public expenditure, by level of education and year

		Public expenditure[1] on education as a percentage of total public expenditure					Public expenditure[1] on education as a percentage of GDP				
		2007			2000	1995	2007			2000	1995
		Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined	All levels of education combined	Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined	All levels of education combined
OECD countries	Australia	10.3	3.2	13.7	13.8	13.8	3.2	1.0	4.3	4.5	4.9
	Austria	7.2	3.1	11.1	10.7	10.8	3.5	1.5	5.4	5.6	6.1
	Belgium	8.3	2.7	12.4	12.1	m	4.0	1.3	6.0	5.9	m
	Canada[2, 3]	7.8	4.5	12.3	12.4	12.7	3.1	1.8	4.9	5.1	6.2
	Chile[4]	13.3	2.6	17.9	17.5	14.5	3.0	0.6	4.0	3.9	3.0
	Czech Republic	6.1	2.5	9.9	9.5	8.7	2.6	1.1	4.2	4.0	4.8
	Denmark[3]	9.2	4.5	15.4	15.3	12.2	4.7	2.3	7.8	8.3	7.3
	Finland	7.9	3.9	12.5	12.5	11.0	3.7	1.9	5.9	6.0	6.8
	France	7.1	2.3	10.7	11.6	11.5	3.7	1.2	5.6	6.0	6.3
	Germany	6.6	2.6	10.3	9.8	8.5	2.9	1.1	4.5	4.4	4.6
	Greece	m	m	m	7.3	5.6	m	m	m	3.4	2.6
	Hungary	6.6	2.1	10.4	14.1	12.9	3.3	1.0	5.2	4.9	5.2
	Iceland	11.6	3.3	17.4	15.9	m	4.9	1.4	7.4	6.7	m
	Ireland	10.4	3.2	13.5	13.6	12.2	3.8	1.1	4.9	4.3	5.0
	Italy	6.4	1.6	9.0	9.8	9.0	3.1	0.8	4.3	4.5	4.7
	Japan[3]	6.8	1.7	9.4	9.5	m	2.5	0.6	3.4	3.6	3.6
	Korea	11.0	2.1	14.8	16.3	m	3.1	0.6	4.2	3.7	m
	Luxembourg[3, 5]	8.7	m	m	m	m	3.1	m	m	m	m
	Mexico	14.6	4.1	21.7	23.4	22.2	3.3	0.9	4.8	4.4	4.2
	Netherlands	7.7	3.2	11.7	11.2	9.1	3.5	1.4	5.3	5.0	5.1
	New Zealand	11.7	5.2	18.1	m	16.5	3.8	1.7	5.8	6.8	5.6
	Norway	9.9	5.3	16.4	14.5	15.5	4.0	2.2	6.7	5.9	7.9
	Poland[5]	8.2	2.2	11.6	12.7	11.9	3.5	0.9	4.9	5.0	5.2
	Portugal[5]	7.8	2.6	11.6	12.6	11.7	3.6	1.2	5.3	5.4	5.1
	Slovak Republic[3]	12.6	4.2	19.4	14.7	14.1	2.4	0.8	3.6	3.9	4.6
	Spain	7.0	2.5	11.1	10.9	10.3	2.8	1.0	4.3	4.3	4.6
	Sweden	8.2	3.4	12.7	13.4	10.7	4.3	1.8	6.7	7.2	7.1
	Switzerland[5]	8.3	3.1	12.2	15.6	13.5	3.5	1.3	5.2	5.4	5.7
	Turkey	m	m	m	m	m	m	m	m	m	m
	United Kingdom	8.9	2.0	11.7	11.0	11.4	4.1	0.9	5.4	4.3	5.0
	United States	9.9	3.3	14.1	14.4	12.6	3.7	1.2	5.3	4.9	4.7
	OECD average	***9.0***	***3.1***	***13.3***	***13.0***	***12.1***	***3.5***	***1.2***	***5.2***	***5.1***	***5.2***
	EU19 average	***8.0***	***2.9***	***12.1***	***13.1***	***10.7***	***3.5***	***1.3***	***5.3***	***5.1***	***5.3***
Partner countries	Brazil[5]	12.2	2.6	16.1	10.4	11.2	4.0	0.8	5.2	3.8	3.9
	China	m	m	16.3	m	m	m	m	3.3	m	m
	Estonia	9.7	3.1	13.9	14.9	13.9	3.4	1.1	4.8	5.4	5.8
	India[6]	m	m	m	m	m	2.6	0.7	3.3	m	m
	Indonesia	m	m	m	m	m	3.2	0.3	3.5	m	m
	Israel	8.8	2.4	13.4	13.8	13.3	3.9	1.0	5.9	6.5	6.9
	Russian Federation[5]	10.5	2.9	18.8	10.6	m	3.4	1.0	6.1	2.9	m
	Slovenia	8.1	2.9	12.2	m	m	3.4	1.2	5.2	m	m

1. Public expenditure presented in this table includes public subsidies to households for living costs (scholarships and grants to students/households and students loans), which are not spent on educational institutions. Thus the figures presented here exceed those on public spending on institutions found in Table B2.4.
2. Year of reference 2006 instead of 2007.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2008 instead of 2007.
5. Public institutions only.
6. Year of reference 2005 instead of 2007.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The national *Statistics Bulletin on Educational Expenditure 2007*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310339

INDICATOR B5

HOW MUCH DO TERTIARY STUDENTS PAY AND WHAT PUBLIC SUBSIDIES DO THEY RECEIVE?

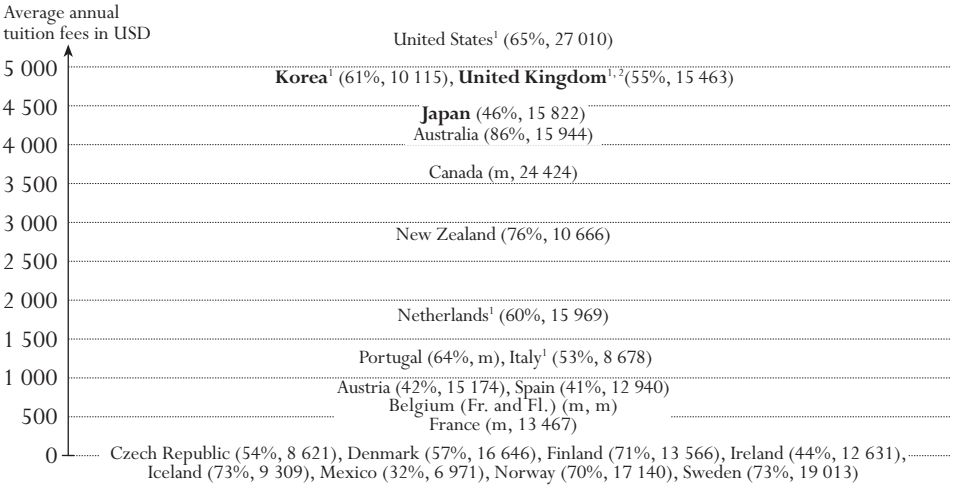
This indicator examines the relationships between annual tuition fees charged by tertiary institutions, direct and indirect public spending on educational institutions, and public subsidies to households for student living costs. It looks at whether financial subsidies for households are provided in the form of grants or loans and raises related questions. Are scholarships/grants and loans more common in countries with higher tuition fees charged by tertiary institutions? Are loans an effective means of increasing the efficiency of financial resources invested in education and of shifting some of the cost of education to the beneficiaries of educational investment? Are student loans less commonly used than grants to encourage low-income students to pursue their education?

Key results

Chart B5.1. Average annual tuition fees charged by tertiary-type A public institutions for full-time national students (academic year 2006-07)

This chart shows the annual tuition fees charged in equivalent USD converted using PPPs. Countries in bold indicate that tuition fees refer to public institutions but more than two-thirds of students are enrolled in private institutions. The net entry rate and expenditure per student (in USD) in tertiary-type A programmes are added next to country names.

Among OECD and partner countries for which data are available, there are large differences in the average tuition fees charged by tertiary-type A public institutions. In eight OECD countries public institutions charge no tuition fees, but in one-third of countries with available data, public institutions charge annual tuition fees for national students in excess of USD 1 500. Among the EU19 countries for which data are available, only Italy, the Netherlands, Portugal and the United Kingdom (government-dependent institutions) have annual tuition fees that represent more than USD 1 100 per full-time student.



Note: This chart does not take into account grants, subsidies or loans that partially or fully offset the student's tuition fees.
1. Year of reference 2007-08.
2. Public institutions do not exist at this level of education and most students are enrolled in government-dependent private institutions.
Source: OECD. Tables B1.1a, B5.1 and A2.4. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310358

Other highlights of this indicator

- The arrangements regarding the tuition fees charged by tertiary educational institutions have been the subject of reform in many OECD countries during the last decade. Tuition fees have been introduced in Luxembourg and in some German federal states or have been significantly increased in Austria, Italy, Portugal and the United Kingdom. Similarly, Denmark, Ireland and the Slovak Republic increased tuition fees charged for foreign students (only foreign students are charged tuition fees). Finally, Ireland abolished tuition fees for national students during the last decade.

- An average of 21% of public spending on tertiary education is devoted to supporting students, households and other private entities. In Australia, Chile, Denmark, the Netherlands, New Zealand, Norway and the United Kingdom, public subsidies to households account for some 25% or more of public tertiary education budgets.

- Low annual tuition fees charged by tertiary-type A institutions are not systematically associated with a small proportion of students who benefit from public subsidies. In tertiary-type A education, the tuition fees charged by public institutions for national students are negligible in the Nordic countries. Yet, more than 55% of the students enrolled in tertiary-type A education in these countries benefit from scholarships/grants and/or public loans. Moreover, Finland, Iceland, Norway and Sweden are among the eight countries with the highest entry rate to tertiary-type A education.

- OECD countries in which students are required to pay tuition fees and can benefit from particularly large public subsidies do not have lower than average levels of access to tertiary-type A education. For example, Australia (86%) and New Zealand (76%) have among the highest entry rates to tertiary-type A education, and the Netherlands (60%) and the United States (65%) are above the OECD average. The higher entry rates to tertiary-type A education in Australia and New Zealand also reflect their high proportion of international students.

- Grants and loans are particularly developed in Australia, Chile, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States. Globally, the cost to a government of providing public loans to a significant proportion of students is higher in countries in which the average level of tuition fees charged by institutions is higher.

B5

Policy context

Policy decisions on tuition fees charged by educational institutions affect both the cost of tertiary education to students and the resources available to tertiary institutions. Subsidies to students and their families also serve as a way for governments to encourage participation in education – particularly by students from low-income families – by covering part of the cost of education and related expenses. In this way, governments can seek to address issues of access and equality of opportunity. The impact of such subsidies must therefore be judged, at least in part, by examining indicators of participation, retention and completion. Furthermore, public subsidies play an important role in indirectly financing educational institutions.

Channelling funding to institutions through students may also help to increase competition among institutions. Since aid for student living costs can serve as a substitute for income from work, public subsidies may enhance educational attainment by enabling students to work less.

Public subsidies come in many forms: as means-based subsidies, as family allowances for all students, as tax allowances for students or their parents, or as other household transfers. Unconditional subsidies (such as tax reductions or family allowances) may provide less support for low-income students than means-tested subsidies. However, they may still help reduce financial disparities among households with and without children in education.

Evidence and explanations

What this indicator does and does not cover

This indicator shows average tuition fees charged in public and private tertiary-type A institutions. It does not distinguish tuition fees by type of programme but gives an overview of tuition fees at this level by type of institution and shows the proportions of students who do or do not receive scholarships/grants that fully or partially cover tuition fees. Levels of tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions.

This indicator also shows the proportion of public spending on tertiary education transferred to students, families and other private entities. Some of these funds may go indirectly to educational institutions, such as the subsidies which are used to cover tuition fees. Others may not, such as subsidies for student living costs.

The indicator distinguishes between scholarships and grants, which are non-repayable subsidies, and loans, which must be repaid. It does not, however, distinguish among different types of grants or loans, such as scholarships, family allowances and in-kind subsidies.

Governments can also support students and their families by providing housing allowances, tax reductions and/or tax credits for education. These subsidies are not covered here. Financial aid to students in some countries may therefore be substantially underestimated in some countries.

The indicator reports the full volume of student loans in order to provide information on the level of support received by current students. The gross amount of loans, including scholarships and grants, provides an appropriate measure of the financial aid to current participants in education. Interest payments and repayments of principal by borrowers should be taken into account in order to assess the net cost of student loans to public and private lenders. However,

such payments are usually made by former students rather than by current students and are not covered in this indicator. In most countries, moreover, loan repayments do not flow to the education authorities, and the money is not available to them to cover other educational expenditures. OECD indicators take the full amount of scholarships and loans (gross) into account when discussing financial aid to current students.

It is also common for governments to guarantee the repayment of loans to students made by private lenders. In some OECD countries, this indirect form of subsidy is as significant as, or more significant than, direct financial aid to students. However, for reasons of comparability, the indicator only takes into account the amounts relating to public transfers for private loans that are made to private entities (not the total value of loans generated). Some qualitative information is nevertheless presented in some of the tables to give some insight on this type of subsidy.

Some OECD countries also have difficulty quantifying the amount of loans to students. Therefore, data on student loans should be treated with some caution.

Annual tuition fees charged by tertiary-type A institutions for national and foreign students

The appropriate level of tuitions fees charged by educational institutions has been debated for many years in OECD countries. On the one hand, high tuition fees increase the resources available to educational institutions, but they also put pressure on students – particularly students from low-income backgrounds – especially in the absence of a strong system of public subsidies to help them to pay or reimburse the cost of their studies. On the other hand, very low tuition fees or free access to tertiary education puts pressure on educational institutions and government to maintain an appropriate quality of education. This pressure has increased with the massive expansion of tertiary education in all OECD countries, and the economic crisis may make it more difficult for government to invest more public funds in education.

In the last decade many OECD countries have undertaken reforms of their systems of tuition fees and have adopted three different perspectives. Some have introduced or increased tuition fees, such as Luxembourg and some German federal states where universities introduced tuition fees for the first time. Austria, Italy, Portugal and the United Kingdom significantly increased the tuition fees charged by their tertiary educational institutions over the last decade. These countries rely to various extents on households to fund tertiary institutions (see Table B3.2b). Other countries, in a context of a greater student mobility (see Indicator C2), have introduced tuition fees for foreign students in order to increase the budget available to educational institutions. This is the case in Denmark, Ireland and the Slovak Republic, which charge tuition fees only for foreign students (but the proportion of foreign tertiary student is below or at the OECD average). Lastly, a few countries decreased or abolished tuition fees during the last decade. Among OECD countries, this is true only of Ireland, which abolished tuition fees charged for national students.

Today, there are large differences among OECD and partner countries in the average tuition fees charged by tertiary-type A institutions for national students. Public institutions in the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden), the Czech Republic, Ireland and Mexico do not charge tuition fees. By contrast, one-third of OECD and partner countries with available data have annual tuition fees for national students charged by public institutions

(or government-dependent private institutions) that exceed USD 1 500. In the United States, tuition fees reach more than USD 5 000 in public institutions. Among the EU19 countries for which data are available, only Italy, the Netherlands, Portugal and the United Kingdom have annual tuition fees that exceed USD 1 100 per full-time national student (Table B5.1 and Chart B5.1).

National policies regarding tuition fees and financial aid to students generally cover all students studying in the country's educational institutions. Even if the focus of this indicator is on national students, countries' policies also take international students into account. These international students may be country's nationals going abroad to study or students who enter the country for the purpose of their studies. Differences between national and foreign students, in terms of the fees they pay or the financial help they may receive, can have, along with other factors, an impact on the flows of international students, either by attracting students to some countries or by preventing students from studying in others (see Indicator C2).

The tuition fees charged by public educational institutions may differ among students enrolled in the same programme. Several countries make a distinction in terms of students' citizenship. In Austria, for example, the average tuition fees charged by public institutions for students who are not citizens of EU or European Economic Area (EEA) countries are twice the fees charged for citizens of these countries. Similar policies are followed in Australia, Canada, New Zealand, the United States and the partner country Slovenia as well as in Denmark as of 2006-07. In these countries, the level of tuition fees varies based on citizenship or on an individual's residence criterion (see Indicator C2).

Annual tuition fees charged by private institutions

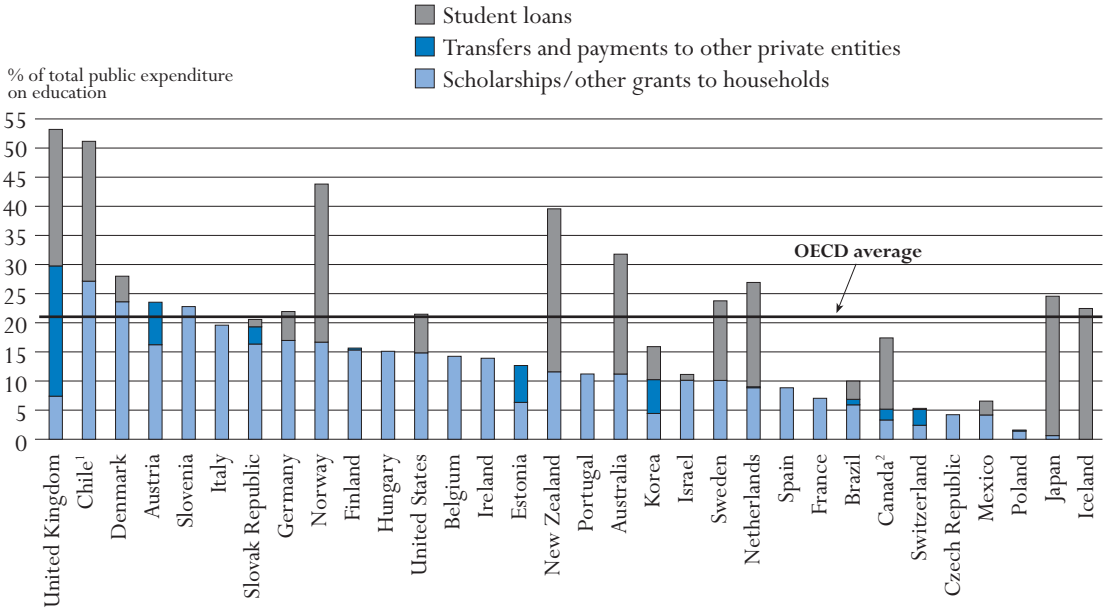
Annual tuition fees charged by private institutions vary considerably across and within OECD and partner countries. In most OECD and partner countries, private institutions charge higher tuition fees than public institutions. Finland, Ireland and Sweden are the only countries with no tuition fees in either public or private institutions. Variations within countries tend to be greatest in the countries in which the largest proportions of students are enrolled in independent private tertiary-type A institutions. By contrast, in most countries tuition fees charged by institutions differ less between public and government-dependent private institutions. In Austria, there is even no difference in the tuitions fees charged by these two types of institution. The greater autonomy of independent private institutions as compared to public and government-dependent institutions partly explains this situation.

Public subsidies to households and other private entities

Subsidies to students and their families also serve as a means for governments to encourage participation in education – particularly among students from low-income families – by covering part of the cost of education and related expenses. OECD countries spend an average of 0.4% of their GDP on public subsidies to households and other private entities for all levels of education combined. The proportion of education budgets spent on subsidies to households and private entities is much higher at the tertiary level than at the primary, secondary and post-secondary non-tertiary levels and represents 0.3% of GDP. The subsidies are largest in relation to GDP at the tertiary level in Norway (1% of GDP), followed by New Zealand (0.7%), Denmark (0.6%), the United Kingdom (0.5%), Sweden (0.4%), the Netherlands (0.4%) and Austria (0.4%) (Table B5.3, and Table B5.4 available on line).

Chart B5.2. Public subsidies for education in tertiary education (2007)

Public subsidies for education to households and other private entities as a percentage of total public expenditure on education, by type of subsidy



1. Year of reference 2008
2. Year of reference 2006.

Countries are ranked in descending order of the share of scholarships/other grants to households and transfers and payments to other private entities in total public expenditure on education.

Source: OECD. Table B5.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310358

OECD countries spend, on average, 21% of their public budgets for tertiary education on subsidies to households and other private entities (Chart B5.2). In Australia, Chile, Denmark, the Netherlands, New Zealand, Norway, and the United Kingdom, public subsidies account for more than 25% of public spending on tertiary education. Only the Czech Republic and Poland spend less than 5% of total public spending on tertiary education on subsidies (Table B5.3).

Overall country approaches to funding tertiary education

Countries differ in their approach to funding tertiary education. This section provides a taxonomy of approaches to funding tertiary education in OECD and partner countries along with available data. Countries are grouped along two dimensions. The first is the extent of cost-sharing, that is, the level of contribution required from the student and/or his/her family in tertiary-type A education. The second concerns the public subsidies received by students at this level of education.

There is no single model for financing tertiary-type A education in OECD and partner countries. Some countries in which tertiary-type A institutions charge similar tuition fees may have differences in the proportion of students benefiting from public subsidies and/or differences in the average amount of these subsidies (Tables B5.1 and B5.2, Table B5.4 available on line, and Chart B5.3).

Nevertheless, comparisons of the tuition fees charged by institutions and the public subsidies received by students, as well as other factors such as access to tertiary education, level of public expenditure on tertiary education or the level of taxation of income, help to distinguish four main groups of countries. In addition, tax revenue based on income (OECD, 2006) is highly correlated with the level of public expenditure available for education, and the level of tax revenue can provide some information on the possibility of financing public subsidies to students.

Model 1: Countries with no or low tuition fees but quite generous student support systems

This group includes the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). There are no (or low) financial barriers for tertiary studies due to tuition fees and there is even a high level of student aid. At 69%, the average entry rate to tertiary-type A education for this group is above the OECD average (see Indicator A2). Tuition fees charged by public educational institutions for national students are negligible for tertiary-type A education and more than 55% of students enrolled in tertiary-type A education in this group can benefit from scholarships/grants and/or public loans to finance their studies or living expenses (Tables B5.1, B5.2 and Chart B5.3).

In these countries the levels of public expenditure on tertiary education as a percentage of GDP and the level of taxation on income are also among the highest in OECD and partner countries. The approach to funding tertiary education expresses the views held by these countries' societies. Public funding of tertiary education reflects deeply rooted social values as equality of opportunity and social equity, which are characteristic of the Nordic countries. The notion that government should provide its citizens with tertiary education at no charge to the user is a salient feature of these countries' educational culture. In its current mode, the funding of both institutions and students in these countries is based on the principle that access to tertiary education is a right, rather than a benefit (OECD, 2008, Chapter 4).

Model 2: Countries with high levels of tuition fees and well-developed student support systems

A second group includes Australia, Canada, the Netherlands, New Zealand, the United Kingdom and the United States. These countries have potentially high financial barriers for entry to tertiary-type A education, but also provide large public subsidies to students. It is noteworthy that the average entry rate to tertiary-type A education for this group of countries is, at 65%, slightly above the OECD average and higher than most countries with low tuition fees (except the Nordic countries).

Tuition fees charged by tertiary-type A institutions exceed USD 1 500 in all these countries and more than 68% of tertiary-type A students receive public subsidies (in Australia, the Netherlands, New Zealand and the United States, the four countries for which data are available; Tables B5.1 and B5.2). Student support systems are well developed and mostly accommodate the needs of the entire student population, with a proportion of public subsidies in total public expenditure on tertiary education which is higher than the OECD average (21%) in five out of the six countries: Australia (31%), the Netherlands (27%), New Zealand (40%), the United Kingdom (53%), the United States (21%), and nearly at the average for Canada (17%) (Table B5.3). Access to tertiary-type A education in countries in this group is not lower than in other groups. For example, Australia (86%) and New Zealand (76%) have among the highest entry rates to tertiary-type A education, owing in part to the high proportion of international students enrolled in tertiary-type A education. The Netherlands (60%) and the United States (65%) were above

the OECD average (56%) in 2007 (see Table A2.4). Finally, these countries spend more per tertiary student on core services than the OECD average and have a relatively high level of revenue from income tax as a percentage of GDP compared to the OECD average. The Netherlands is an outlier in terms of the level of taxation of income (see Table B1.1b and OECD, 2006).

Model 3: Countries with high level of tuition fees but less developed student support systems

In Japan and Korea most students are charged high tuition fees, but student support systems are somewhat less developed than in Models 1 and 2. This places a considerable financial burden on students and their families. In these two countries, tertiary-type A institutions charge high tuition fees (more than USD 4 200) but a relatively small proportion of students benefit from public subsidies (one-quarter of students receive public subsidies in Japan, and 16% of total public expenditure on tertiary education is allocated to public subsidies in Korea). Tertiary-type A entry rates in these two countries are 46% and 61%, respectively; Japan is below the OECD average and Korea is slightly above the average. In Japan, some students who excel academically but have difficulty financing their studies may benefit from reduced tuition and/or admission fees or be entirely exempted. The below-average access to tertiary-type A education is counterbalanced by an above average entry rate to tertiary-type B programmes (see Indicator A2). These two countries are among those with the lowest levels of public expenditure allocated to tertiary education as a percentage of GDP (see Table B4.1). This partially explains the small proportion of students who benefit from public loans. However, Japan has implemented a reform to improve student support system and public subsidies for students are above the OECD average and represent 25% of total public expenditure on tertiary education; expenditure per tertiary student is also above the OECD average. Korea presents the opposite picture (Table B5.3).

Model 4: Countries with a low level of tuition fees and less developed student support systems

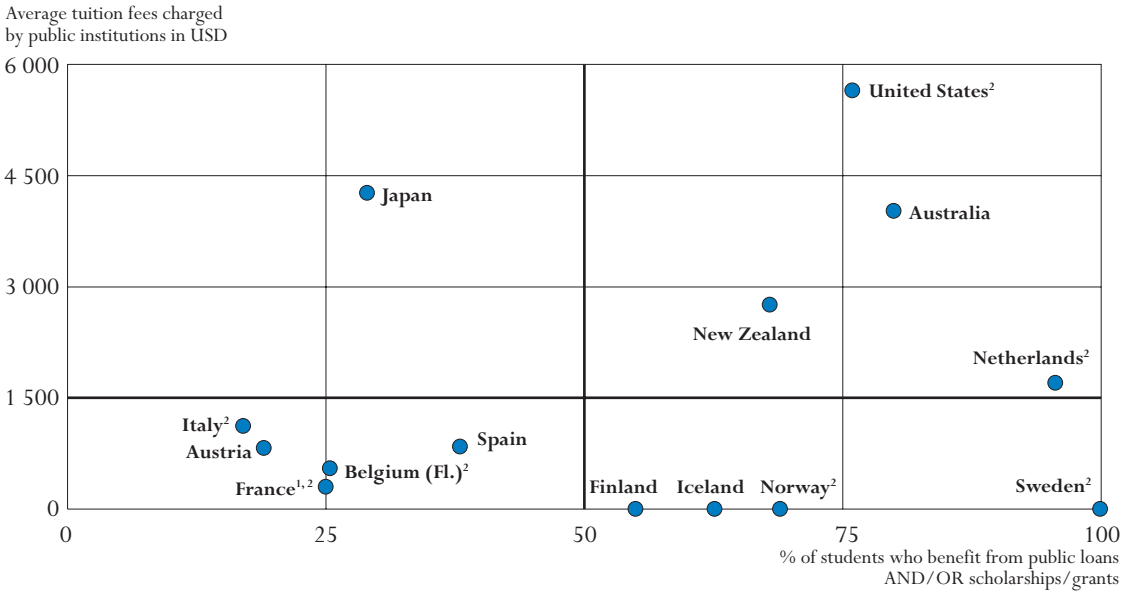
The fourth and last group includes all other European countries for which data are available (Austria, Belgium, the Czech Republic, France, Ireland, Italy, Portugal and Spain). These countries have relatively low financial barriers to entry to tertiary education (or no barriers like in the Czech Republic) combined with relatively low subsidies for students, which are mainly targeted to specific groups. There is a high level of dependence on public resources for the funding of tertiary education and participation levels are typically below the OECD average. The average tertiary-type A entry rate in this group of countries is a relatively low 47% (it is counterbalanced by high entry rates in tertiary-type B education in Belgium). Similarly, expenditure per student for tertiary-type A education is also comparatively low (see Indicator B1 and Chart B5.1). While high tuition fees can raise potential barriers to student participation, this suggests that the absence of tuition fees, which is assumed to ease access to education, does not necessarily ensure high levels of access and quality of tertiary-type A education.

Tuition fees charged by public institutions in this group never exceed USD 1 200, and, in countries for which data are available, the proportion of students who benefit from public subsidies is below 40% (Tables B5.1 and B5.2). In these countries students and their families can benefit from subsidies provided by sources other than the ministry of Education (*e.g.* housing allowances, tax reductions and/or tax credits for education); these are not covered in this analysis. In France, for example, housing allowances represent about 90% of scholarships/grants and about one-third of students benefit from these. Poland is notable in that some students have their studies fully subsidised by the public budget and the remainder pay the full costs of tuition. In other

words, the burden of private contributions is borne by part of the student population rather than shared by all (see Indicator B3 in *Education at a Glance 2008*). Loan systems (public loans or loans guaranteed by the state) are not available or only available to a small proportion of students in these countries (Table B5.2). At the same time, the level of public spending and the tax revenue from income as a percentage of GDP vary significantly more among this group of countries than in the other groups, but policies on tuition fees and public subsidies are not necessarily the main drivers in students' decision to enter tertiary-type A education.

Chart B5.3. Relationships between average tuition fees charged by public institutions and proportion of students who benefit from public loans AND/OR scholarships/grants in tertiary-type A education (academic year 2006-07)

For full-time national students, in USD, converted using PPPs



1. Average tuition fees from USD 179 to USD 1 206 for university programmes dependent from the Ministry of Education.
2. Year of reference 2007-08.

Source: OECD. Tables B5.1 and B5.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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OECD countries use different mixes of grants and loans to subsidise students' education costs

A key question in many OECD countries is whether financial subsidies for households should be provided primarily in the form of grants or loans. Governments subsidise students' living or educational costs through different mixes of these two types of subsidies. Advocates of student loans argue that loans allow available resources to be spread further: if the amount spent on grants were used to guarantee or subsidise loans instead, more aid would be available to students and overall access would increase. Loans also shift some of the cost of education to those who benefit most from educational investment. Opponents of loans argue that student loans are less effective than grants in encouraging low-income students to pursue their education. They also argue that loans may be less efficient than anticipated because of the various subsidies provided to borrowers or lenders and because of the costs of administration and servicing.

Chart B5.2 presents the proportion of public educational expenditure dedicated to loans, grants and scholarships, and other subsidies to households at the tertiary level. Grants and scholarships include family allowances and other specific subsidies, but exclude tax reductions that are part of the subsidy system in Australia, Belgium (Flemish Community), Canada, the Czech Republic, Finland, France, Hungary, Italy, the Netherlands, Norway, the Slovak Republic, Switzerland and the United States (see Chart B5.3 in *Education at a Glance 2006*). More than one-third of the 32 OECD and partner countries for which data are available rely exclusively on scholarships/grants and transfers/payments to other private entities. The other countries provide both scholarships/grants and loans to students (except Iceland, which relies only on student loans) and both subsidies are particularly developed in Australia, Chile, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States. In general, the largest subsidies to students are provided by the countries that offer student loans; in most cases these countries also spend an above-average proportion of their budgets on grants and scholarships (Chart B5.2 and Table B5.3).

Definitions and methodologies

Data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*). Data on tuition fees charged by educational institutions and financial aid to students were collected through a special survey undertaken in 2007 and updated in 2009 and refer to the academic year 2007-08. Amounts of tuition fees and amounts of loans in national currency are converted into equivalent USD by dividing the national currency by the purchasing power parity (PPP) index for GDP. Amounts of tuition fees and associated proportions of students should be interpreted with caution as they represent the weighted average of the main tertiary-type A programmes and do not cover all the educational institutions.

Public subsidies to households include the following categories: *i)* grants/scholarships; *ii)* public student loans; *iii)* family or child allowances contingent on student status; i*v)* public subsidies in cash or in kind, specifically for housing, transport, medical expenses, books and supplies, social, recreational and other purposes; and *v)* interest-related subsidies for private loans.

Expenditure on student loans is reported on a gross basis, that is, without subtracting or netting out repayments or interest payments from borrowers (students or households). This is because the gross amount of loans, including scholarships and grants, provides an appropriate measure of the financial aid to current participants in education.

Public costs related to private loans guaranteed by governments are included as subsidies to other private entities. Unlike public loans, only the net cost of these loans is included.

The value of tax reductions or credits to households and students is not included.

Further references

OECD (2006), *OECD Tax Statistics: Volume 2006, Issue I: Revenue Statistics 1965-2005,* OECD Publishing.
OECD (2008), *OECD Reviews of Tertiary Education: Tertiary Education for the Knowledge Society,* OECD Publishing.

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310358

- ***Table B5.4. Public subsidies for households and other private entities as a percentage of total public expenditure on education and GDP, for primary, secondary and post-secondary non-tertiary education (2007)***

B5

Table B5.1.

Estimated annual average tuition fees charged by tertiary-type A educational institutions[1] for national students (academic year 2006-07)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions. However, the figures reported can be considered as good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.

	Percentage of tertiary full-time students enrolled in tertiary-type A	Percentage of tertiary-type A full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			Comment
		Public institutions	Government-dependent private institutions	Independent private institutions	Public institutions	Government-dependent private institutions	Independent private institutions	
	(1)	(2)		(3)	(4)	(5)	(6)	(7)
OECD countries								
Australia	87	97	a	3	4 035	a	7 902	93% of national students in public institutions are in subsidised places and pay an average USD 3 719 tuition fee, including HECS/HELP subsidies.
Austria[2]	84	87	13	m	821	821	m	
Belgium (Fl.)[3]	m	50	50	m	x(5)	516 to 586	m	Tuition fees refer to the minimum and maximum amount that institutions may charge according to the legislation (indexed figures). They refer to those for students enrolled in first (bachelor) and second (master) degree programmes. The information does not refer to further degree programmes (for example master after master). This information refers to students without scholarships (students with scholarships benefit from lower tuition fees, see Annex 3 for more details).
Belgium (Fr.)[4]	m	m	m	m	m	m	m	
Canada	95	100	m	m	3 693	x(4)	x(4)	
Chile	59	34	23	43	m	m	m	
Czech Republic	85	89	a	11	No tuition fees	a	m	The average fee in public institutions is negligible because fees are paid only by students studying too long (more than the standard length of the programme plus 1 year): about 4% of students.
Denmark[5]	88	98	2	0	No tuition fees	m	a	
Finland	100	87	13	a	No tuition fees	No tuition fees	a	Excluding membership fees to student unions.
France[3]	72	86	1	13	179 to 1 206	m	m	Tuition fees in public insitutions refer to University programmes dependent from the Ministry of Education.
Germany	87	97	3	x(2)	m	m	m	
Greece	61	100	a	a	m	m	m	
Hungary	90	88	12	a	m	m	m	
Iceland	98	80	20	a	No tuition fees	2 058 to 6 449	a	Subsidised student loans that cover tution fees are available for all students. Almost no scholarships/ grants exist.
Ireland	71	93	a	7	No tuition fees	a	No tuition fees	The tuition fees charged by institutions are paid directly by the government and the students do not have to pay these fees.
Italy[3]	98	93	a	7	1 195	a	4 355	The annual average tuition fees do not take into account the scholarships/grants that fully cover tuition fees but partial reductions of fees cannot be excluded.

1. Scholarships/grants that the student may receive are not taken into account.
2. Including students in advanced research programmes.
3. Year of reference 2007-08.
4. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions, so the weighted average is not the same.
5. Weighted average for all tertiary education.
6. Tuition fees in total tertiary education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B5.1. *(continued)*

Estimated annual average tuition fees charged by tertiary-type A educational institutions[1] for national students (academic year 2006-07)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions. However, the figures reported can be considered as good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.

		Percentage of tertiary full-time students enrolled in tertiary-type A	Percentage of tertiary-type A full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			Comment
			Public institutions	Government-dependent private institutions	Independent private	Public institutions	Government-dependent private institutions	Independent private	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
OECD countries	Japan	74	25	a	75	4 432	a	6 935	Excludes admission fee charged by the school for the first year (USD 2 352 on average).
	Korea[3]	63	22	a	78	4 717	a	8 519	Tuition fees in first degree programmes only. Excludes admission fees to university, but includes supporting fees.
	Luxembourg	m	m	m	m	m	m	m	
	Mexico[3]	96	66	a	34	No tuition fees	a	4 847	
	Netherlands[3]	100	m	m	m	1 754	a	m	
	New Zealand	77	98	2	n	2 734	m	n	
	Norway[3]	96	88	12	n	No tuition fees	5 247	n	Student fees are representative of the dominant private ISCED 5 institution in Norway.
	Poland	95	83	a	17	m	a	m	
	Portugal[6]	94	74	a	26	1 178	4 769	m	
	Slovak Republic	96	98	a	2	m	m	m	
	Spain	81	88	a	12	854	a	m	
	Sweden	86	93	7	n	No tuition fees	No tuition fees	m	Excluding mandatory membership fees to student unions.
	Switzerland	84	95	5	n	m	m	m	
	Turkey	69	94	a	6	m	a	m	
	United Kingdom[3]	88	a	100	n	a	4 678	m	English students from low-income households can access non-repayable grants and bursaries. Loans for tuition fees and living costs are available to all eligible students.
	United States[3]	81	67	a	33	5 943	a	21 979	Including non-national students.
Partner countries	Brazil	91	27	a	73	m	a	m	
	Estonia	61	0	87	13	a	m	m	
	Israel	75	11	72	17	a	m	m	
	Russian Federation	74	90	a	10	m	a	m	
	Slovenia[3]	68	99	1	n	m	m	1 166 to 5 971	In public and government-dependent private institutions: First and second level full-time students do not pay tuition fees. But third level full-time students pay on average between USD 2 634 and USD 7 452.

1. Scholarships/grants that the student may receive are not taken into account.
2. Including students in advanced research programmes.
3. Year of reference 2007-08.
4. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions, so the weighted average is not the same.
5. Weighted average for all tertiary education.
6. Tuition fees in total tertiary education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B5.2.

Distribution of financial aid to students compared to amount of tuition fees charged in tertiary-type A education (academic year 2006-07)

Based on full-time students

		Distribution of financial aid to students: Percentage of students that:				Distribution of scholarships/grants in support of tuition fees: Percentage of students that:			
		benefit from public loans only	benefit from scholarships/grants only	benefit from public loans AND scholarships/grants	DO NOT benefit from public loans OR scholarships/grants	receive scholarships/grants that are higher than the tuition fees	receive scholarships/grants whose amount is equivalent to the tuition fees	receive scholarships/grants that partially cover the tuition fees	DO NOT receive scholarships/grants in support of tuition fees
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD countries	Australia[1]	76	n	4	20	n	n	4.8	95.2
	Austria	a	19	a	81	18.4	n	1.2	80.4
	Belgium (Fl.)[2, 3]	a	26	a	74	25.6	x(5)	x(5)	74.4
	Belgium (Fr.)	m	m	m	m	m	m	m	m
	Canada	m	m	m	m	m	m	m	m
	Chile[2]	m	m	m	m	m	m	m	m
	Czech Republic	m	m	a	m	m	m	m	m
	Denmark[2]	m	m	m	m	m	m	m	m
	Finland[2]	a	55	a	45	a	a	a	a
	France[2, 3]	a	26	a	74	m	m	m	m
	Germany	m	m	m	m	m	m	m	m
	Greece	m	m	m	m	m	m	m	m
	Hungary	14	34	9	43	m	m	m	m
	Iceland	63	m	m	37	a	a	a	100.0
	Ireland	a	m	a	m	a	a	a	a
	Italy[3]	n	15	n	85	6.9	2.9	5.4	84.7
	Japan	28	1	n	72	a	a	a	100.0
	Korea	m	m	m	m	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m
	Mexico[2, 3]	1	12	m	87	m	m	m	m
	Netherlands[3]	11	63	21	5	70.0	n	14.0	16.0
	New Zealand	42	3	24	32	45.4	x(5)	x(5)	54.6
	Norway[2, 3]	12	4	52	33	m	m	m	m
	Poland	m	m	m	m	m	m	m	m
	Portugal	m	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m	m
	Spain	n	38	n	62	18.7	4.3	15.2	61.9
	Sweden[3]	n	19	50	32	a	a	a	a
	Switzerland[3]	2	10	m	88	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m
	United Kingdom	m	m	m	m	m	m	m	m
	United States[3]	12	27	38	24	m	m	m	m
Partner countries	Brazil	m	m	m	m	m	m	m	m
	Estonia	m	m	m	m	m	m	m	m
	Israel	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m
	Slovenia[3]	a	21	n	79	m	m	m	m

1. Excludes foreign students.
2. Distribution of students in total tertiary education.
3. Year of reference 2007-08.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B5.3.

Public subsidies for households and other private entities as a percentage of total public expenditure on education and GDP, for tertiary education (2007)

Direct public expenditure on educational institutions and subsidies for households and other private entities

		Direct public expenditure for institutions	Public subsidies for education to private entities						Subsidies for education to private entities as a percentage of GDP
			Financial aid to students				Transfers and payments to other private entities	Total	
			Scholarships/other grants to households	Student loans	Total	Scholarships/other grants to households attributable for educational institutions			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD countries	Australia	**68.6**	11.2	20.6	31.8	1.0	-0.4	**31.4**	0.31
	Austria	**76.5**	16.2	a	16.2	m	7.3	**23.5**	0.35
	Belgium	**85.8**	14.2	n	14.2	3.9	n	**14.2**	0.19
	Canada[1]	**82.6**	3.3	12.2	15.5	m	1.9	**17.4**	0.33
	Chile[2]	**48.8**	27.1	24.0	51.2	13.7	m	**51.2**	0.30
	Czech Republic	**95.8**	4.2	a	4.2	m	n	**4.2**	0.05
	Denmark	**72.0**	23.6	4.4	28.0	n	n	**28.0**	0.64
	Finland	**84.3**	15.3	n	15.3	n	0.3	**15.7**	0.29
	France	**93.0**	7.0	n	7.0	m	a	**7.0**	0.09
	Germany	**78.1**	17.0	5.0	21.9	m	n	**21.9**	0.25
	Greece	**m**	m	m	m	m	m	**m**	m
	Hungary	**84.9**	15.1	n	15.1	n	n	**15.1**	0.15
	Iceland	**77.5**	m	22.5	22.5	m	n	**22.5**	0.31
	Ireland	**86.1**	13.9	n	13.9	m	n	**13.9**	0.16
	Italy	**80.4**	19.6	n	19.6	6.5	n	**19.6**	0.15
	Japan[3]	**75.4**	0.6	23.9	24.6	m	n	**24.6**	0.16
	Korea	**84.1**	4.4	5.7	10.1	3.8	5.8	**15.9**	0.10
	Luxembourg	**m**	m	m	m	m	m	**m**	m
	Mexico	**93.4**	4.2	2.4	6.6	1.4	a	**6.6**	0.06
	Netherlands	**73.1**	8.9	17.9	26.8	a	0.1	**26.9**	0.39
	New Zealand	**60.4**	11.6	28.0	39.6	m	n	**39.6**	0.66
	Norway	**56.2**	16.7	27.1	43.8	m	n	**43.8**	0.95
	Poland[4]	**98.4**	1.5	a	1.5	m	n	**1.6**	0.01
	Portugal	**88.8**	11.2	m	11.2	m	m	**11.2**	0.13
	Slovak Republic[3]	**79.4**	16.4	1.3	17.6	m	3.0	**20.6**	0.16
	Spain	**91.2**	8.8	n	8.8	2.1	n	**8.8**	0.09
	Sweden	**76.2**	10.1	13.7	23.8	a	a	**23.8**	0.42
	Switzerland[4]	**94.7**	2.4	0.2	2.6	m	2.7	**5.3**	0.07
	Turkey	**m**	m	m	m	m	m	**m**	m
	United Kingdom	**46.8**	7.4	23.4	30.8	x(4)	22.4	**53.2**	0.50
	United States	**78.5**	14.8	6.6	21.5	m	m	**21.5**	0.27
	OECD average	***79.0***	***11.4***	***8.8***	***19.5***	***2.7***	***1.8***	***21.0***	***0.27***
Partner countries	Brazil[4]	**90.0**	5.9	3.1	9.0	x(2)	0.9	**10.0**	0.08
	Estonia	**87.3**	6.3	m	6.3	m	6.3	**12.7**	0.13
	Israel	**88.9**	10.1	1.0	11.1	9.8	n	**11.1**	0.12
	Russian Federation	**m**	m	a	m	m	m	**m**	m
	Slovenia	**77.2**	22.8	n	22.8	m	n	**22.8**	0.28

1. Year of reference 2006.
2. Year of reference 2008.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Public institutions only.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

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INDICATOR B6

ON WHAT RESOURCES AND SERVICES IS EDUCATION FUNDING SPENT?

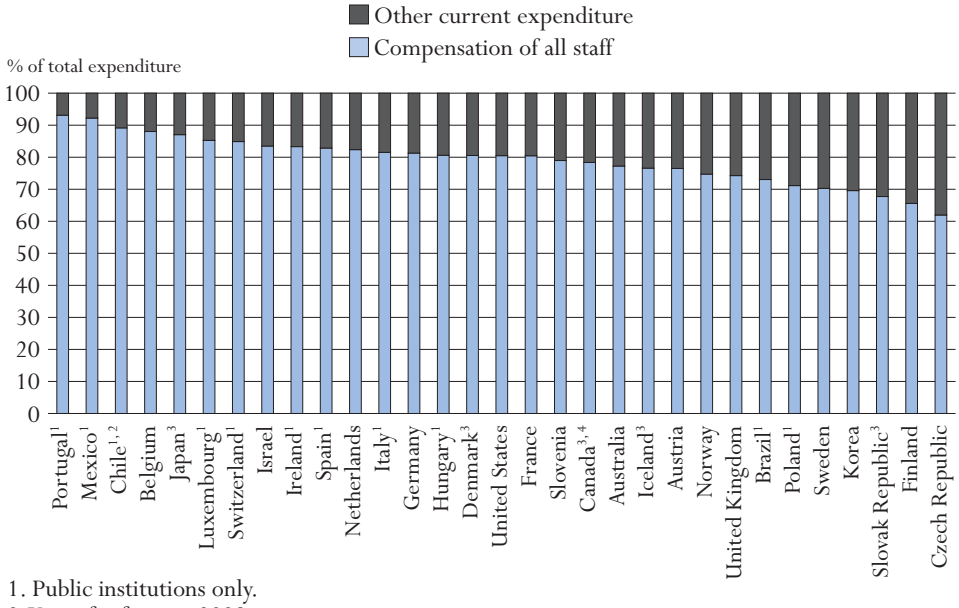
This indicator compares OECD countries with respect to the division of spending between current and capital expenditure and the distribution of current expenditure. It is affected by teachers' salaries (see Indicator D3), pension systems, the age distribution of teachers, the size of the non-teaching staff employed in education (see Indicator D2) and the degree to which expanded enrolments require the construction of new buildings. It also compares how OECD countries' spending is distributed among these different functions of educational institutions.

Key results

Chart B6.1. Distribution of current expenditure by educational institutions for primary, secondary and post-secondary non-tertiary education (2007)

The chart shows the distribution of current spending by educational institutions by resource category. Spending by educational institutions can be broken down into capital and current expenditure. Within current expenditure, one can distinguish between spending on instruction and spending on ancillary and R&D services. The biggest item in current spending – teachers' compensation – is examined further in Indicator D3.

In primary, secondary and post-secondary non-tertiary education, taken together, current expenditure accounts for an average of 92% of total spending in OECD countries. In all but four OECD countries, more than 70% of current expenditure by primary, secondary and post-secondary non-tertiary educational institutions is for staff salaries.



1. Public institutions only.
2. Year of reference 2008.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2006.

Countries are ranked in descending order of the share of compensation of all staff in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B6.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- At primary, secondary and post-secondary non-tertiary levels of education, OECD countries spend an average of 21% of current expenditure on purposes other than the compensation of educational personnel.
- The difference between primary and secondary education in terms of the proportion of current expenditure for purposes other than compensation exceeds 5 percentage points only in France, Ireland and Korea.
- Compensation of teaching staff is a smaller share of current and capital spending at the tertiary level than at other levels because of the higher cost of facilities and equipment and the construction of new buildings flowing from an expansion in enrolments. At the tertiary level, OECD countries spend an average of 32% of current expenditure on purposes other than compensation of educational personnel.
- On average, OECD countries spend 0.3% of GDP on ancillary services provided by primary, secondary and post-secondary non-tertiary institutions. This represents 7% of total spending on educational institutions. At the high end, Finland, France, Hungary, Korea, the Slovak Republic, Sweden and the United Kingdom allocate some 10% or more of total expenditure on educational institutions to ancillary services.
- High spending on R&D is a distinctive feature of tertiary institutions and averages over one-quarter of expenditure. The fact that some countries spend much more than others on R&D (Italy, Norway, Sweden, Switzerland and the United Kingdom spend more than 40%) helps explain wide differences in total tertiary spending.

Policy context

The distribution of spending among categories of expenditure can affect the quality of services (such as teachers' salaries), the condition of educational facilities (such as school maintenance) and the education system's capacity to adjust to changing demographic and enrolment trends (such as construction of new schools). Comparisons of how different OECD countries apportion educational expenditure among the various categories can also provide insight into the organisation and operation of their educational institutions. Decisions on the allocation of budgetary and structural resources at the system level eventually feed through to the classroom and affect the nature of instruction and the conditions under which it is provided.

Educational institutions offer a range of services in addition to instruction, and this indicator also compares how spending is distributed among these various functions. At the primary, secondary and post-secondary non-tertiary levels, they may offer meals and free transport to and from school or boarding facilities. At the tertiary level, they may offer housing. Tertiary educational institutions also often conduct a wide range of research activities.

Evidence and explanations

What this indicator does and does not cover

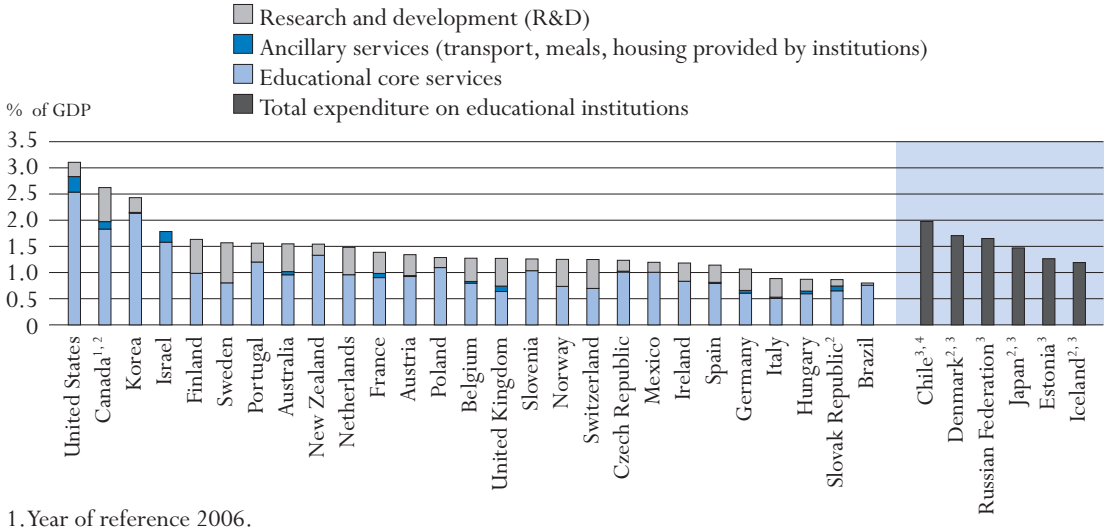
This indicator breaks down educational expenditure by current and capital expenditure and within the three main functions typically fulfilled by educational institutions. It includes costs directly attributable to instruction, such as teachers' salaries or school materials, and costs indirectly related to the provision of instruction, such as administration, instructional support services, teachers' professional development, student counselling, or the construction and/or provision of school facilities. It also includes spending on ancillary services such as the student welfare services provided by educational institutions. Finally, it includes spending on research and development (R&D) conducted at tertiary institutions, in the form either of separately funded R&D activities or of the proportion of salaries and current expenditure in general education budgets that is attributable to the research activities of staff.

The indicator does not include public and private R&D spending outside educational institutions, such as R&D spending in industry. A review of R&D spending in sectors other than education is provided in the publication *Main Science and Technology Indicators* (OECD, 2009c). Expenditure on student welfare services provided by educational institutions only includes public subsidies for those services; expenditure by students and their families on services that are provided by institutions on a self-funding basis is not included in this indicator.

Expenditure on instruction, R&D and ancillary services

Below the tertiary level, the majority of educational funding is directed to core services, such as instruction. At the tertiary level, other services – particularly those related to R&D activities – can account for a significant proportion of educational spending. Differences among OECD countries in expenditure on R&D activities therefore explain a significant part of the differences in overall educational expenditure per tertiary-level student (Table B6.1 and Chart B6.2). For example, high levels of R&D spending (between 0.4% and 0.8% of GDP) in tertiary educational institutions in Australia, Austria, Belgium, Canada, Finland, France, Germany, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom imply that spending on educational institutions per student in these countries would be considerably lower if the R&D component were excluded (see Table B1.1a).

Chart B6.2. Expenditure on educational core services, R&D and ancillary services in tertiary educational institutions, as a percentage of GDP (2007)



1. Year of reference 2006.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Total expenditure at tertiary level including expenditure on research and development (R&D).
4. Year of reference 2008.

Countries are ranked in descending order of total expenditure on educational institutions in tertiary institutions.
Source: OECD. Table B6.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Student welfare services

Student welfare services (and in some cases services for the general public) are an integral function of schools and universities in many OECD countries. Countries finance these ancillary services with different combinations of public expenditure, public subsidies and fees paid by students and their families.

On average, OECD countries spend 0.3% of GDP on ancillary services provided by primary, secondary and post-secondary non-tertiary institutions. This represents 7% of total spending on these institutions. At the high end, Finland, France, Hungary, Korea, the Slovak Republic, Sweden and the United Kingdom dedicate some 10% or more of their total spending on educational institutions to ancillary services (Table B6.1).

Ancillary services are financed by users more often at the tertiary level than at the primary or secondary levels. On average, expenditure on subsidies for ancillary services at the tertiary level amounts to less than 0.1% of GDP but represents 0.14% in Canada, 0.20% in the partner country Israel and up to 0.30% in the United States (Table B6.1).

Current and capital expenditure and the distribution of current expenditure

Educational expenditure includes both current and capital expenditure. Capital expenditure by educational institutions refers to spending on assets that last longer than one year and includes spending on the construction, renovation and major repair of buildings. Current expenditure by educational institutions comprises spending on school resources used each year for the operation of schools.

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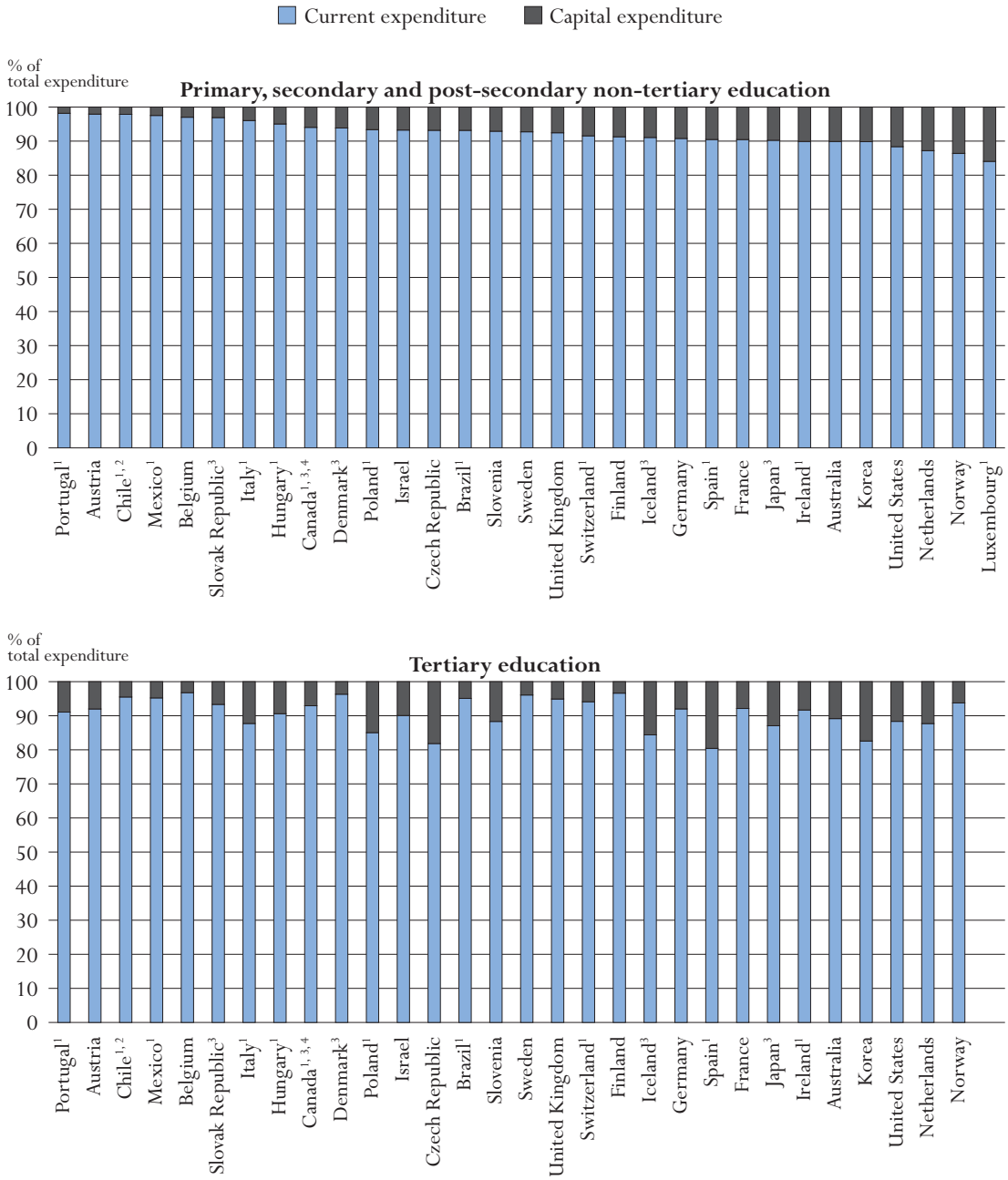
Chart B6.3. Distribution of current and capital expenditure by educational institutions (2007)

By resource category and level of education



1. Public institutions only (for Canada, at tertiary level only).
2. Year of reference 2008.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2006.

Countries are ranked in descending order of the share of current expenditure by primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B6.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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The labour-intensive nature of the instruction explains the large proportion of current spending in total educational expenditure. In primary, secondary and post-secondary non-tertiary education, taken together, current expenditure accounts on average for 92% of total spending across all OECD countries. There is significant variation among OECD countries in the proportions of current and capital expenditure. At the primary, secondary and post-secondary non-tertiary levels, taken together, the proportion of current expenditure ranges from 84% in Luxembourg to 97% or more in Austria, Belgium, Chile, Mexico and Portugal (Table B6.2b and Chart B6.3).

Proportion of current expenditure by educational institutions allocated to compensation of teachers and other staff

Current expenditure by educational institutions can be further subdivided into three broad functional categories: compensation of teachers, compensation of other staff and other current expenditures (teaching materials and supplies, maintenance of school buildings, preparation of students' meals, and rental of school facilities). The amount allocated to each of these functional categories depends partly on current and projected changes in enrolments, on salaries of educational personnel, and on the costs of maintenance and construction of educational facilities.

The salaries of teachers and other staff employed in education account for the largest proportion of current expenditure in all OECD countries. Expenditure on compensation of educational personnel accounts on average for 79% of current expenditure at the primary, secondary and post-secondary non-tertiary levels of education, taken together. In all countries except the Czech Republic, Finland, Korea and the Slovak Republic, 70% or more of current expenditure at these levels is spent on staff salaries. The proportion devoted to the compensation of educational personnel is 90% or more in Mexico and Portugal (Table B6.2b).

There is very little difference in the average proportion of expenditure on compensation of personnel between the primary and secondary levels of education. The exceptions are France, Ireland and Korea where the difference exceeds 5 percentage points (Table B6.2a). This is mainly due to significant differences in teachers' salaries, class sizes, sizes of non-teaching staff, instruction hours received by students and teaching time provided by teachers between the two levels (see Indicators B7, D1, D2, D3 and D4).

OECD countries with relatively small education budgets, such as Mexico, Portugal and Turkey, tend to direct a larger proportion of current educational expenditure to compensation of personnel and a smaller proportion to sub-contracts for services such as support services (*e.g.* maintenance of school buildings), ancillary services (*e.g.* preparation of students' meals), and rental of school buildings and other facilities.

In Denmark, France, the United Kingdom, the United States and the partner country Slovenia, more than 20% of current expenditure in primary, secondary and post-secondary non-tertiary education, taken together, goes towards compensation of non-teaching staff, while in Austria, Ireland, Korea and Spain the figure is 10% or less. These differences are likely to reflect the degree to which educational personnel such as principals, guidance counsellors, bus drivers, school nurses, janitors and maintenance workers are included in this category (Table B6.2b).

OECD countries spend, on average, 32% of current expenditure at the tertiary level on purposes other than the compensation of educational personnel. This is due to the higher cost of facilities and equipment in higher education (Table B6.2b).

Proportions of capital expenditure

At the tertiary level, the proportion of total expenditure for capital outlays is larger than at the primary, secondary and post-secondary non-tertiary levels (9.3% *versus* 7.6%), generally because of the greater differentiation and sophistication of teaching facilities. In 11 out of the 30 OECD and partner countries for which data are available, the proportion directed to capital expenditure at the tertiary level is 10% or more. In the Czech Republic, Iceland, Korea, Poland and Spain it is at least 15% (Chart B6.3). Differences are likely to reflect how tertiary education is organised in each country as well as the degree to which the expansion in enrolments requires the construction of new buildings.

Definitions and methodologies

Data refer to the financial year 2007 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 1 at *www.oecd.org/edu/eag2010*).

The distinction between current and capital expenditure by educational institutions is taken from the standard definition used in national income accounting. Current expenditure refers to spending on goods and services consumed within the current year and requiring recurrent production in order to sustain the provision of educational services. Capital expenditure refers to spending on assets which last longer than one year, including construction, renovation or major repair of buildings and new or replacement equipment. The capital expenditure reported here represents the value of educational capital acquired or created during the year in question – that is, the amount of capital formation – regardless of whether the capital expenditure was financed from current revenue or through borrowing. Neither current nor capital expenditure includes debt servicing.

Calculations cover expenditure by public institutions or, where available, by both public and private institutions.

Current expenditure by educational institutions other than on compensation of personnel includes expenditure on sub-contracted services such as support services (*e.g.* maintenance of school buildings), ancillary services (*e.g.* preparation of meals for students) and rental of school buildings and other facilities. These services are obtained from outside providers, unlike the services provided by the education authorities or by the educational institutions using their own personnel.

Expenditure on R&D includes all expenditure on research performed at universities and other tertiary education institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors. The classification of expenditure is based on data collected from the institutions carrying out R&D rather than on the sources of funds.

Ancillary services are services provided by educational institutions that are peripheral to the main educational mission. The two main components of ancillary services are student welfare services and services for the general public. At primary, secondary and post-secondary non-tertiary levels, student welfare services include meals, school health services and transport to and from school. At the tertiary level, they include residence halls (dormitories), dining halls and health care. Services for the general public include museums, radio and television broadcasting, sports and recreational and cultural programmes. Expenditure on ancillary services, including fees paid by students or households, is excluded.

Educational core services are estimated as the residual of all expenditure, that is, total expenditure on educational institutions net of expenditure on R&D and ancillary services.

Table B6.1.

Expenditure on educational institutions, by service category, as a percentage of GDP (2007)

Expenditure on instruction, R&D and ancillary services in educational institutions and private expenditure on educational goods purchased outside educational institutions

		Primary, secondary and post-secondary non-tertiary education				Tertiary education				
		Expenditure on educational institutions			Private payments on instructional services/ goods outside educational institutions	Expenditure on educational institutions				Private payments on instructional services/ goods outside educational institutions
		Core educational services	Ancillary services (transport, meals, housing provided by institutions)	Total		Core educational services	Ancillary services (transport, meals, housing provided by institutions)	Research and development at tertiary institutions	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	3.43	0.08	**3.51**	0.08	0.96	0.06	0.53	**1.55**	0.10
	Austria	3.40	0.16	**3.56**	m	0.93	0.01	0.40	**1.34**	m
	Belgium	3.97	0.12	**4.10**	0.11	0.80	0.03	0.44	**1.27**	0.16
	Canada[1, 2]	3.28	0.19	**3.47**	m	1.83	0.14	0.65	**2.62**	0.10
	Chile[3]	3.60	0.25	**3.85**	m	x(8)	x(8)	x(8)	**1.98**	n
	Czech Republic	2.54	0.22	**2.76**	0.05	1.01	0.01	0.21	**1.23**	0.04
	Denmark[2]	x(3)	x(3)	**4.26**	0.49	x(8)	a	x(8)	**1.71**	0.64
	Finland	3.24	0.40	**3.64**	m	0.98	a	0.65	**1.63**	m
	France	3.38	0.52	**3.90**	0.16	0.90	0.08	0.40	**1.39**	0.07
	Germany	2.95	0.07	**3.02**	0.13	0.61	0.05	0.41	**1.07**	0.08
	Greece	m	m	**m**	m	m	m	m	**m**	m
	Hungary[4]	2.76	0.41	**3.17**	m	0.61	0.05	0.21	**0.87**	m
	Iceland[2]	x(3)	x(3)	**5.09**	m	x(8)	x(8)	x(8)	**1.19**	m
	Ireland	3.39	0.09	**3.48**	m	0.83	x(8)	0.35	**1.18**	m
	Italy	2.97	0.12	**3.09**	0.37	0.50	0.02	0.36	**0.88**	0.13
	Japan[2]	x(3)	x(3)	**2.80**	0.76	x(8)	x(8)	x(8)	**1.47**	0.04
	Korea	3.54	0.43	**3.97**	m	2.14	0.01	0.28	**2.43**	m
	Luxembourg[4]	x(3)	x(3)	**3.08**	m	m	m	m	**m**	m
	Mexico	3.75	m	**3.75**	0.19	1.01	m	0.19	**1.20**	0.04
	Netherlands	3.69	n	**3.69**	0.19	0.96	n	0.52	**1.48**	0.07
	New Zealand	x(3)	x(3)	**4.05**	n	1.33	x(8)	0.21	**1.54**	n
	Norway	x(3)	x(3)	**3.69**	m	0.74	n	0.52	**1.25**	m
	Poland[4]	3.40	0.02	**3.42**	0.15	1.09	n	0.19	**1.29**	0.05
	Portugal[4]	3.44	0.07	**3.51**	0.06	1.20	x(8)	0.36	**1.56**	m
	Slovak Republic[2]	2.19	0.36	**2.55**	0.35	0.65	0.09	0.12	**0.87**	0.23
	Spain	2.79	0.13	**2.93**	m	0.79	0.02	0.33	**1.15**	m
	Sweden	3.66	0.42	**4.07**	m	0.80	n	0.77	**1.57**	m
	Switzerland[4]	x(3)	x(3)	**3.98**	m	0.70	x(8)	0.55	**1.25**	m
	Turkey	m	m	**m**	m	m	m	m	**m**	m
	United Kingdom	3.46	0.78	**4.25**	m	0.64	0.10	0.53	**1.27**	0.15
	United States	3.74	0.30	**4.04**	a	2.54	0.30	0.27	**3.11**	a
	OECD average	***3.30***	***0.25***	***3.61***	***0.21***	***1.02***	***0.05***	***0.39***	***1.48***	***0.11***
Partner countries	Brazil[4]	x(3)	x(3)	**4.00**	m	0.76	x(5)	0.04	**0.80**	m
	Estonia	x(3)	x(3)	**3.32**	m	x(8)	x(8)	n	**1.26**	m
	Israel	3.92	0.22	**4.14**	0.27	1.58	0.20	m	**1.78**	n
	Russian Federation[4]	x(3)	x(3)	**3.52**	m	x(8)	x(8)	x(8)	**1.65**	m
	Slovenia	3.47	0.16	**3.63**	m	1.04	n	0.22	**1.26**	m

1. Year of reference 2006.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2008.
4. Public institutions only.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B6.2a.

Expenditure by educational institutions, by resource category, in primary and secondary education (2007)

Distribution of total and current expenditure by educational institutions from public and private sources

		Primary education						Secondary education					
		Percentage of total expenditure		Percentage of current expenditure				Percentage of total expenditure		Percentage of current expenditure			
		Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure	Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	**90.3**	**9.7**	65.1	14.1	79.2	20.8	**89.5**	**10.5**	60.0	15.9	75.9	24.1
	Austria	**97.5**	**2.5**	67.4	7.2	74.6	25.4	**98.1**	**1.9**	73.3	4.4	77.7	22.4
	Belgium	**96.5**	**3.5**	69.7	18.9	88.6	11.4	**97.3**	**2.7**	71.3	16.4	87.7	12.3
	Canada	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Chile[1, 2]	**97.9**	**2.1**	x(5)	x(5)	89.6	10.4	**97.8**	**2.2**	x(11)	x(11)	88.7	11.3
	Czech Republic	**91.5**	**8.5**	52.7	13.3	65.9	34.1	**93.6**	**6.4**	46.1	14.9	60.9	39.1
	Denmark[3]	**93.2**	**6.8**	52.0	28.0	80.0	20.0	**94.4**	**5.6**	54.8	26.2	80.9	19.1
	Finland	**91.8**	**8.2**	57.7	9.3	67.0	33.0	**91.0**	**9.0**	52.6	12.3	64.9	35.1
	France	**93.0**	**7.0**	52.8	23.2	75.9	24.1	**89.3**	**10.7**	59.7	22.9	82.6	17.4
	Germany	**92.0**	**8.0**	x(5)	x(5)	81.6	18.4	**90.5**	**9.5**	x(11)	x(11)	81.8	18.2
	Greece	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Hungary[2]	**96.5**	**3.5**	x(5)	x(5)	81.9	18.1	**94.6**	**5.4**	x(11)	x(11)	80.2	19.8
	Iceland[3]	**88.1**	**11.9**	x(5)	x(5)	77.2	22.8	**94.1**	**5.9**	x(11)	x(11)	76.0	24.0
	Ireland[2]	**87.6**	**12.4**	78.1	12.5	90.6	9.4	**92.0**	**8.0**	72.2	4.9	77.1	22.9
	Italy[2]	**95.2**	**4.8**	66.0	16.1	82.1	17.9	**96.6**	**3.4**	67.2	15.2	82.4	17.6
	Japan[3]	**90.1**	**9.9**	x(5)	x(5)	87.5	12.5	**90.4**	**9.6**	x(11)	x(11)	86.7	13.3
	Korea	**89.4**	**10.6**	62.7	10.7	73.4	26.6	**90.1**	**9.9**	61.2	5.8	67.0	33.0
	Luxembourg[2]	**81.6**	**18.4**	75.2	8.2	83.4	16.6	**86.8**	**13.2**	74.9	12.3	87.2	12.8
	Mexico[2]	**98.1**	**1.9**	85.4	8.6	94.0	6.0	**96.8**	**3.2**	73.6	16.3	89.9	10.1
	Netherlands	**88.6**	**11.4**	x(5)	x(5)	85.3	14.7	**86.4**	**13.6**	x(11)	x(11)	80.8	19.2
	New Zealand	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Norway	**88.0**	**12.0**	x(5)	x(5)	76.9	23.1	**85.0**	**15.0**	x(11)	x(11)	72.8	27.2
	Poland[2]	**92.7**	**7.3**	x(5)	x(5)	71.8	28.2	**94.0**	**6.0**	x(11)	x(11)	71.1	28.9
	Portugal[2]	**99.3**	**0.7**	80.7	11.5	92.2	7.8	**97.3**	**2.7**	82.2	11.7	93.8	6.2
	Slovak Republic[3]	**97.0**	**3.0**	54.3	14.1	68.4	31.6	**96.9**	**3.1**	52.5	14.9	67.5	32.5
	Spain[2]	**91.6**	**8.4**	70.5	10.7	81.2	18.8	**89.8**	**10.2**	75.0	8.9	84.0	16.0
	Sweden	**93.0**	**7.0**	53.0	19.0	72.1	27.9	**92.5**	**7.5**	50.2	18.8	69.0	31.0
	Switzerland[2]	**90.5**	**9.5**	70.9	13.4	84.3	15.7	**92.4**	**7.6**	72.4	13.0	85.4	14.6
	Turkey	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	United Kingdom	**90.5**	**9.5**	45.2	28.0	73.3	26.7	**93.8**	**6.2**	57.9	17.0	75.0	25.0
	United States	**88.4**	**11.6**	54.8	25.7	80.5	19.5	**88.4**	**11.6**	54.8	25.7	80.5	19.5
	OECD average	***92.2***	***7.8***	***63.9***	***15.4***	***80.0***	***20.0***	***92.6***	***7.4***	***63.8***	***14.6***	***78.8***	***21.2***
Partner countries	Brazil[2]	**93.0**	**7.0**	x(5)	x(5)	71.8	28.2	**93.3**	**6.7**	x(11)	x(11)	73.9	26.1
	China	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Estonia	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	India	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Indonesia[2]	**85.0**	**15.0**	80.8	10.7	91.5	8.5	**73.3**	**22.7**	77.6	9.7	87.3	12.7
	Israel	**92.8**	**7.2**	x(5)	x(5)	82.5	17.5	**93.7**	**6.3**	x(11)	x(11)	84.7	15.3
	Russian Federation	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Slovenia	**x(7)**	**x(8)**	x(9)	x(10)	x(11)	x(12)	**92.9**	**7.1**	46.8	32.2	79.0	21.0

1. Year of reference 2008.
2. Public institutions only.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table B6.2b.

Expenditure by educational institutions, by resource category and level of education (2007)

Distribution of total and current expenditure by educational institutions from public and private sources

		Primary, secondary and post-secondary non-tertiary education						Tertiary education					
		Percentage of total expenditure		Percentage of current expenditure				Percentage of total expenditure		Percentage of current expenditure			
		Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure	Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	**89.9**	**10.1**	62.0	15.3	77.2	22.8	**89.2**	**10.8**	33.1	27.7	60.8	39.2
	Austria	**97.9**	**2.1**	71.1	5.4	76.5	23.5	**92.0**	**8.0**	47.6	15.3	62.9	37.1
	Belgium	**97.0**	**3.0**	70.7	17.3	88.0	12.0	**96.8**	**3.2**	53.1	24.2	77.2	22.8
	Canada[1, 2, 3]	**94.0**	**6.0**	62.6	15.8	78.4	21.6	**92.9**	**7.1**	36.8	27.1	63.9	36.1
	Chile[3, 4]	**97.9**	**2.1**	x(5)	x(5)	89.2	10.8	**95.5**	**4.5**	x(11)	x(11)	65.0	35.0
	Czech Republic	**93.2**	**6.8**	47.4	14.5	62.0	38.0	**81.8**	**18.2**	33.3	19.0	52.3	47.7
	Denmark[2]	**93.8**	**6.2**	53.6	27.0	80.5	19.5	**96.3**	**3.7**	55.1	26.6	81.7	18.3
	Finland	**91.3**	**8.7**	54.3	11.3	65.6	34.4	**96.6**	**3.4**	34.2	28.3	62.5	37.5
	France	**90.5**	**9.5**	57.5	23.0	80.5	19.5	**92.1**	**7.9**	49.8	29.3	79.1	20.9
	Germany	**90.8**	**9.2**	x(5)	x(5)	81.3	18.7	**92.0**	**8.0**	x(11)	x(11)	66.5	33.5
	Greece	**m**	**m**	x(5)	x(5)	m	m	**m**	**m**	x(11)	x(11)	m	m
	Hungary[3]	**95.0**	**5.0**	x(5)	x(5)	80.6	19.4	**90.6**	**9.4**	x(11)	x(11)	65.5	34.5
	Iceland[2]	**91.1**	**8.9**	x(5)	x(5)	76.6	23.4	**84.4**	**15.6**	x(11)	x(11)	92.1	7.9
	Ireland[3]	**89.9**	**10.1**	74.8	8.5	83.3	16.7	**91.7**	**8.3**	49.4	24.6	74.0	26.0
	Italy[3]	**96.0**	**4.0**	66.2	15.4	81.5	18.5	**87.7**	**12.3**	36.0	31.2	67.3	32.7
	Japan[2]	**90.2**	**9.8**	x(5)	x(5)	87.0	13.0	**87.1**	**12.9**	x(11)	x(11)	60.6	39.4
	Korea	**89.8**	**10.2**	61.8	7.8	69.6	30.4	**82.6**	**17.4**	36.3	17.4	53.7	46.3
	Luxembourg[3]	**84.1**	**16.0**	75.1	10.2	85.3	14.7	**m**	**m**	m	m	m	m
	Mexico[3]	**97.5**	**2.5**	80.3	11.9	92.2	7.8	**95.2**	**4.8**	55.5	14.9	70.4	29.6
	Netherlands	**87.2**	**12.8**	x(5)	x(5)	82.4	17.6	**87.7**	**12.3**	x(11)	x(11)	68.9	31.1
	New Zealand	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Norway	**86.4**	**13.6**	x(5)	x(5)	74.7	25.3	**93.8**	**6.2**	x(11)	x(11)	64.6	35.4
	Poland[3]	**93.4**	**6.6**	x(5)	x(5)	71.1	28.9	**85.0**	**15.0**	x(11)	x(11)	70.1	29.9
	Portugal[3]	**98.2**	**1.8**	81.5	11.6	93.1	6.9	**91.1**	**8.9**	x(11)	x(11)	71.3	28.7
	Slovak Republic[2]	**96.9**	**3.1**	53.1	14.7	67.7	32.3	**93.3**	**6.7**	30.0	21.9	51.9	48.1
	Spain[3]	**90.5**	**9.5**	73.2	9.6	82.9	17.1	**80.4**	**19.6**	55.8	21.1	76.9	23.1
	Sweden	**92.7**	**7.3**	51.4	18.9	70.3	29.7	**96.1**	**3.9**	x(11)	x(11)	63.0	37.0
	Switzerland[3]	**91.6**	**8.4**	71.7	13.2	84.9	15.1	**94.1**	**5.9**	55.8	21.8	77.6	22.4
	Turkey[3]	**m**	**m**	x(5)	x(5)	m	m	**m**	**m**	x(11)	x(11)	m	m
	United Kingdom	**92.4**	**7.6**	52.7	21.5	74.3	25.7	**94.9**	**5.1**	40.5	34.6	75.2	24.8
	United States	**88.4**	**11.6**	54.8	25.7	80.5	19.5	**88.4**	**11.6**	27.4	36.5	64.0	36.0
	OECD average	***92.4***	***7.6***	***63.8***	***14.9***	***79.2***	***20.8***	***90.7***	***9.3***	***42.9***	***24.8***	***68.1***	***31.9***
Partner countries	Brazil[3]	**93.2**	**6.8**	x(5)	x(5)	73.0	27.0	**95.1**	**4.9**	x(11)	x(11)	78.1	21.9
	China	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Estonia	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	India	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Indonesia[3]	**83.6**	**16.4**	80.3	10.6	90.8	9.2	**m**	**m**	13.1	1.0	14.1	85.9
	Israel	**93.2**	**6.8**	x(5)	x(5)	83.5	16.5	**90.1**	**9.9**	x(11)	x(11)	83.3	16.7
	Russian Federation	**m**	**m**	m	m	m	m	**m**	**m**	m	m	m	m
	Slovenia	**92.9**	**7.1**	46.8	32.2	79.0	21.0	**88.3**	**11.7**	40.9	26.4	67.2	32.8

1. Year of reference 2006.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only (for Canada, at tertiary level only; for Italy, except in tertiary education).
4. Year of reference 2008.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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INDICATOR B7

WHICH FACTORS INFLUENCE THE LEVEL OF EXPENDITURE?

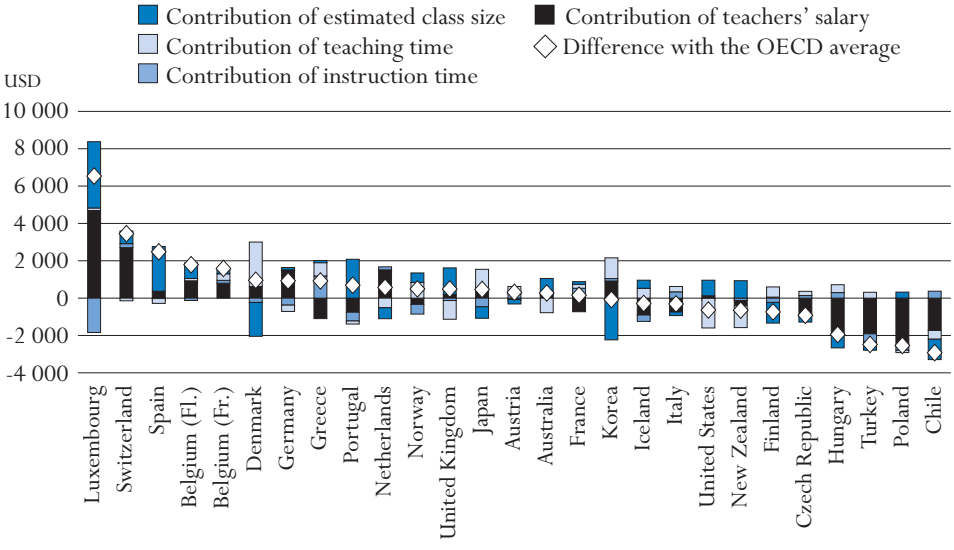
This indicator examines the policy choices countries make when investing their resources in primary and secondary education, such as trade-offs between the hours that students spend in the classroom, the number of teaching hours of teachers, class sizes (proxy measure) and teachers' salaries. First, differences in the combination of factors that influence the salary cost per student are analysed at the primary, lower secondary and upper secondary levels of education. Next, to exclude differences in the countries' level of wealth, salary cost per student is compared to GDP per capita. This indicator also presents the main reforms implemented by countries during the last decade regarding these four factors.

Key results

Chart B7.1. Contribution (in USD) of various factors to salary cost per student, at upper secondary level of education (2007)

This chart shows the contribution (in USD) of the factors to the difference between salary cost per student in the country and the OECD average. For example, in Spain, the salary cost per student is USD 2 481 higher than the OECD average. This is because Spain has higher teachers' salaries (USD +369) than the OECD average, annual instruction time for students close to the OECD average (USD –23) and above-average teaching time for teachers (USD –259) compared to the OECD average. However these effects are sharply dampened by significantly smaller class sizes (USD +2 394) than the average.

Salary cost per student varies significantly among countries. For example, it is more than ten times greater in Luxembourg, Spain and Switzerland than in Chile (USD 528). Four factors influence salary cost per student: the level of teachers' salaries, instruction time for students, teaching time of teachers and average class size, and a given level of salary cost per student can result from many different combinations of the four factors. For example, in Japan and the United Kingdom the salary cost per student is USD 3 913 and USD 3 937, respectively, both slightly above the OECD average of USD 3 449. However, Japan's lower than average teaching time of teachers is the main driver of the salary cost per student, while the United Kingdom reaches above-average salary cost per student through a relatively smaller class size than the OECD average.



Countries are ranked in descending order of the difference between the salary cost and the OECD average.
Source: OECD. Table B7.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- Similar levels of expenditure among countries in primary and secondary education can mask a variety of contrasting policy choices. This helps to explain why there is no simple relationship between overall spending on education and the level of student performance.
- At the lower secondary level of education, salary cost per student are the highest in Luxembourg (USD 9 985) and Switzerland (USD 5 065), but are below USD 1 500 only in Chile, Hungary, Mexico and Poland. Except in Mexico, these differences are mostly influenced by the level of teachers' salaries.
- In five out of the seven countries (Belgium [Flemish and French Communities], Finland, Greece and Portugal) with the highest salary costs per students at lower secondary level, class size is below the average and is the main source of the difference with the average salary cost per student.
- Comparisons of the different levels of education show that differences in salary cost per student with the OECD average are usually largest at the upper secondary level of education (in 13 out of 27 OECD countries) and smallest at primary level of education (in 17 out of 27 OECD countries). This trend is most obvious in countries where salary cost per student is furthest from the OECD average.
- When salary cost per student is compared to GDP per capita to exclude differences in countries' wealth, relative teachers' salaries are less often the main driver of the difference with the average level relative salary cost per student, especially in countries that have high levels of salaries and GDP per capita compared to other countries (for example Luxembourg and Switzerland) and also in countries that have low levels of salaries and GDP per capita compared to other countries (for example Chile, the Czech Republic and Turkey).
- The higher the level of education analysed, the greater the impact of relative teachers' salaries and the lower the impact of class size on relative salary cost per student (in percentage of GDP per capita) compared to the OECD average. The main examples of this pattern are Austria, France, Hungary and Switzerland where the main drivers of relative salary costs per student are teachers' salaries at the upper secondary level, and class size at the primary level.

Policy context

The relationship between the resources devoted to education and the outcomes achieved has been the focus of much education policy interest in recent years, as governments seek to achieve more and better education for the entire population. However, given the increasing pressure on public budgets, there is intense interest in ensuring that funding – public funding, in particular – is directed so as to achieve the desired outcomes as effectively as possible. What are the main factors that drive investment in education? Would better performance be achieved if one of these factors were modified? Some of these questions were addressed in Indicator B7 of the 2008 edition of *Education at a Glance*. This edition focuses on the ways in which a given level of expenditure in primary and secondary education can be reached through different combinations of factors.

Evidence and explanations

Many factors affect the relationship between spending per student and student performance. They include the organisation and management of schooling within the system (*e.g.* layers of management and the distribution of decision making, the geographic dispersion of the population), the organisation of the immediate learning environment of students (*e.g.* class size, hours of instruction) and the quality of the teaching workforce, as well as characteristics of students themselves, most notably their socio-economic backgrounds.

Countries with similar levels of spending on education may have different performance levels. Some results suggest that there are possibilities for improving efficiency by reducing inputs while holding outputs constant, or, on the contrary, for maximising outputs while holding inputs constant. However, this requires better understanding of how resources are invested by countries in their education systems. For this reason, the level of expenditure is not the only factor to be taken into account when analysing the efficiency of the resources used in education. Since a given level of expenditure can result from different choices regarding the combination of inputs, comparative analysis of the factors that affect the level of expenditure may clarify differences in performance.

Teachers' compensation is usually the largest part of expenditure on education and thus of expenditure per student. It is a function of instruction time of students, teaching time of teachers, teachers' salaries and the number of teachers needed to teach students, which depends on class size (Box B7.1). Differences among countries in these four factors may explain differences in the level of expenditure per student. In the same way, a given level of expenditure may result from a different combination of these factors. For example, teachers' salaries may be higher in some countries than in others, or the amount of students' instruction time may differ.

Difference in the combination of factors at the primary and secondary levels of education (in USD)

Various reforms have been implemented during the last decade in primary and secondary education which have had an impact on the factors that contribute to the variation in the salary cost per student (Box B7.2). This indicator presents the effects on the salary cost per student of these four factors in 2007, but all the reforms implemented in the last decade should serve to better understand which changes countries have made during this period and to observe whether these choices have led to reduce/increase in a country the differences relative to other countries.

Box B7.1. Relationship between salary cost per student and instruction time of students, teaching time of teachers, teachers' salaries and class size

One way to analyse the factors with an impact on expenditure per student and to measure the extent of their effects is to compare the differences between national figures and the OECD average. This analysis aims at computing the differences in expenditure per student among countries and the OECD average, and then calculating the contribution of different factors to the variation to the OECD average.

This exercise is based on a mathematical relationship between the different factors and follows the method presented in the Canadian publication *Education Statistics Bulletin* (2005) (see explanations in Annex 3). Educational expenditure is mathematically linked to factors related to a country's school context (number of hours of instruction time for students, number of teaching hours for teachers, estimated class size) and one factor relating to teachers (statutory salary).

Expenditure is broken down into compensation of teachers and other expenditure (defined as all expenditure other than compensation of teachers). Compensation of teachers divided by the number of students, or "the salary cost per student" (CCS), is estimated through:

$$CCS = SAL \times instT \times \frac{1}{teachT} \times \frac{1}{ClassSize} = \frac{SAL}{Ratiostud/teacher}$$

SAL: teachers' salaries (estimated by statutory salary after 15 years of experience)
instT: instruction time of students (estimated as the annual intended instruction time for students)
teachT: teaching time of teachers (estimated as the annual number of teaching hours for teachers)
ClassSize: a proxy for class size
Ratiostud/teacher: the ratio of students to teaching staff

With the exception of class size (which is not computed at upper secondary level, as class sizes are difficult to define and compare because students at this level may attend several classes depending on the subject area), values for the different variables can be obtained from the indicators published in *Education at a Glance* (Chapter D). However, for the purpose of the analysis, a "theoretical" class size or proxy class size is estimated based on the ratio of students to teaching staff and the number of teaching hours and instruction hours (see Box D2.1). As a proxy, this estimated class size should be interpreted with caution. To facilitate reading, the "estimated class size" is referred to as "class size" in the text.

Using this mathematical relationship and comparing a country's values for the four factors to the OECD averages makes it possible to measure both the direct and indirect contribution of each of these four factors to the variation in salary cost per student between that country and the OECD average (for more details see Annex 3). For example, in the case where only two factors interact, if a worker receives a 10% increase in the hourly wage and increases the number of hours of work by 20%, his/her earnings will increase by 32% as a result of the direct contribution of each of these variations (0.1 + 0.2) and the indirect contribution of these variations due to the combination of the two factors (0.1 * 0.2).

At the primary level of education, salary cost per student varies from less than USD 550 in Chile (USD 526) to more than USD 6 000 in Luxembourg (USD 6 115, or slightly under triple the OECD average of USD 2 307). These differences in salary costs per student are mostly influenced by the level of teachers' salaries in these countries (Table B7.1). Teachers' salaries in Luxembourg contribute to more than USD 2 444 to the difference with the OECD average salary cost per student, as teachers' salaries in Luxembourg are much higher than the OECD average (USD 68 720 compared to OECD average of USD 36 496). In contrast, in Chile, teacher's salaries contribute for USD 1 255 to the difference with the OECD average salary cost per student (at USD 12 976, teachers' salaries are much lower than the OECD average of USD 36 496).

At the lower secondary level of education, salary cost per student is the highest in Luxembourg (USD 9 985, more than three times the OECD average of USD 2 950) and Switzerland (USD 5 065), but is below USD 1 500 only in Chile (USD 526, less than one-fifth of the OECD average), Hungary (USD 1 416), Mexico (USD 703) and Poland (USD 896). Except in Mexico, these differences are, as at the primary level, mostly influenced by the level of teachers' salaries in these countries (Table B7.2). However, teachers' salaries are not necessarily the factor which contributes most to observed variation from the OECD average. In five out of the seven countries (Belgium [Flemish and French Communities], Finland, Greece and Portugal) with the highest salary costs per students at lower secondary level, class size is below the average and is the main source of the difference with the average salary cost per student. In contrast, in four out of the seven countries with the lowest salary cost per student (Chile, the Czech Republic, Hungary and Poland), the main driver is below-average teachers' salaries, and in the three other countries, this is the above-average class size (France and Mexico) or above-average teaching time (New Zealand).

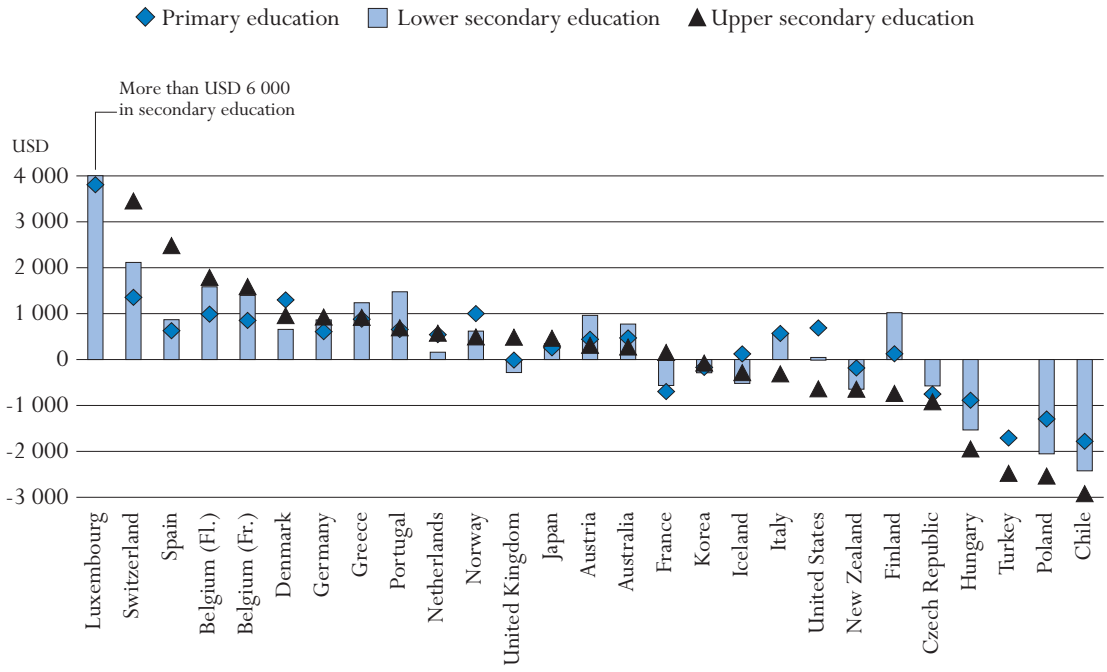
At upper secondary level of education, salary cost per student varies from USD 528 in Chile to around three times the OECD average of USD 3 449 in Luxembourg (USD 9 985). Teachers' salaries account for most of this difference (USD 4 693) as teachers' salaries in Luxembourg are much higher than the OECD average. In Chile as well, teachers' salaries account for the large difference from the OECD average salary cost per student, although in the opposite direction (Table B7.3 and Chart B7.1).

Comparisons of the different levels of education show that differences in salary cost per student with the OECD average are usually largest at the upper secondary level of education in 13 out the 27 OECD countries and smallest at primary level of education also in 17 out of the 27 OECD countries with available data (Chart B7.2). This trend is most obvious in countries where salary cost per student is furthest from the OECD average. For example, Belgium (Flemish and French Communities), Spain and Switzerland have four of the five highest levels of salary cost per student at the upper secondary level of education and the salary cost per student at primary and lower secondary levels is at least USD 190 lower than at upper secondary level.

The fact that similar levels of expenditure can mask contrasting policy choices made by countries helps explain why student performance and expenditure tend not to be strongly correlated. Thus, the four factors that influence salary cost interact differently between countries, and reflect the range of governments' policy choices. For example, in both Denmark and Germany salary cost

per student at upper secondary level is well above the OECD average (USD 4 406 and USD 4 376, respectively) but the two countries combine instruction time, teaching time, class size and teachers' salaries in very different ways. In Denmark, of the four factors, relatively large class size mainly, and in a lesser extent below-average instruction time, act to reduce salary cost per student relative to the OECD average. In spite of the size of these effects, it is more than counterbalanced by relatively high teachers' salaries, which, together with below-average teaching time, result in above-average salary cost per student. In contrast, higher than average salary cost per student in Germany is almost entirely attributable to above-average teachers' salary combined with also smaller than average class size. These two combined effects outweigh the small influences of below-average instruction time and above-average teaching time (Table B7.3).

Chart B7.2. Difference between the salary cost per student and the OECD average (in USD), by level of education (2007)



Countries are ranked in descending order of the difference between the salary cost and the OECD average in upper secondary education.
Source: OECD. Tables B7.1, B7.2 and B7.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310396

However, alongside such contrasts, there are also striking similarities in countries' policy choices. In Australia, New Zealand, the United Kingdom and the United States, salary cost per student at upper secondary level results from the balancing of two opposing effects: above-average teaching time acts to reduce salary cost per student relative to the OECD average, and relatively low class sizes increase salary cost per student relative to the OECD average. However, salary cost per student resulting from this combination is above the OECD average in Australia and the United Kingdom, but below the average in New Zealand and the United States, where teaching time and class sizes are closer to the OECD averages (Table B7.3).

Box B7.2. Main reforms of the last decade concerning the four factors used to calculate salary cost per student

Many countries have implemented reforms over the last decade in order to change their education system's regulations on instruction time for students, teacher's salaries, class size and teaching time for teachers. All the reforms implying a quantitative increase or decrease in these factors have a direct impact on the salary cost per student calculated in this indicator. Only 3 out of the 17 countries with available data – Mexico, Spain and Sweden – did not introduce changes to any of these four factors since 1995.

First, Table B7.4 shows that some countries have a clearly decentralised system which gives states and regions autonomy to decide on the reforms best suited to improving their education system. Among the 17 countries with available information, Australia, Switzerland and the United States follow this pattern, with more than 70% of initial sources of public educational funding generated at the regional level for primary and secondary education (see Table B4.3a available on line). In these countries regions/states can carry out reforms which do not necessarily converge towards a policy line fixed at national level. In these countries, the salary cost per student reflects the average of all regional bodies and may result from different policies. The results might well be different if salary cost per student was computed at the region/state level.

Second, many countries have undertaken reforms at the national level during the last decade to adjust the annual number of hours of instruction for pupils in primary and secondary education. In all cases, the reforms have brought the countries closer to the OECD average (see Indicator D1). Austria (only in lower secondary education), Belgium (Flemish Community), France, Hungary (only in upper secondary education), Italy and the Netherlands have decreased the annual number of hours of instruction for pupils over the last decade. Prior to the reform, all of these countries had a significantly higher than average annual number of hours of instruction (see Indicator D1). By contrast, Finland, Norway and Portugal (only in upper secondary education) increased the annual number of hours of instruction over the last decade. Prior to the reforms, these countries had a significantly lower than average annual number of hours of instruction. This partly explains why in primary and secondary education instruction time is rarely the main driver of the difference between a country's salary cost per student and the OECD average.

Among countries with reforms in instruction time during the last decade, Austria, France and Italy are the only ones that did not at the same time reform the statutory annual teaching time of teachers. In these countries, unless the annual number of teaching hours for teachers or the class size are adjusted in the next years, the number of teachers needed to teach pupils should decrease (if other factors remain constant) and this will affect salary cost per student (the cost will decrease).

In the other countries – Belgium (Flemish Community), Hungary, the Netherlands, Norway and Portugal – a reform of the annual number of hours of instruction for students was coupled with a reform of the annual teaching time for teachers. In Belgium (Flemish Community), the Netherlands and Portugal, a decrease in the hours of instruction has been coupled with a decrease in the amount of teaching time for teachers, while in Norway an increase in hours

of instruction has been combined with an increase in teaching time. Taken together, the two reforms have allowed these countries to maintain a relatively stable ratio of students to teachers over the last decade. If hours of instruction and teaching hours are changed in similar proportions, there would be no effect on the value (in USD) of salary cost per student unless teachers' salaries are also changed.

Hungary is an exception to this pattern, as the increase in the annual amount of teaching time for teachers in upper secondary education has been associated with a decrease in the number of hours of instruction for students. In theory, this means that fewer teachers are necessary (than in the past decade) to ensure the total number of hours of instruction at the upper secondary level of education. Unless there had been also a change in teachers' salaries, these reforms should have led to a decrease in salary cost per student.

There have been few reforms regarding class size and teachers' salaries during the last decade, which partly explains why these factors are often the main sources of differences with the OECD average in salary cost per student in primary and secondary education (see Box 7.3). However, Austria, Belgium (Flemish Community) (only schools at risks) and the Netherlands have reduced class sizes in primary and secondary education. Italy is the only country that slightly increased (by 0.4) the number of pupils per classroom in primary and secondary education. This should have led to an increase in salary cost per student in the first three countries and to a decrease in the last.

For teachers' salaries, countries' reforms differ sharply. Finland decided to set salaries on the basis of teachers' tasks rather than on the annual number of teaching hours, Belgium (Flemish Community) increased teacher' salaries in primary education to raise them to the same level as in lower secondary education, Italy gave schools more autonomy to set teacher's salaries, and the Netherlands and Portugal decreased the number of steps in teachers' careers, thereby shortening the progression in teachers' salaries. Unless other factors were also changed, these changes affected salary cost per student.

All these reforms have an impact on salary cost per student as shown in this indicator and can help to better understand the position of countries in the different tables and charts.

Salary cost per student relative to GDP per capita

The level of teachers' salaries in OECD countries varies according to countries' level of wealth. To account for differences in the countries' level of wealth when comparing salary costs per student, salary cost per student, as well as teachers' salaries, are divided by GDP per capita (on the assumption that GDP per capita is an estimate of countries' level of wealth). This makes it possible to compare countries' "relative" salary cost per student.

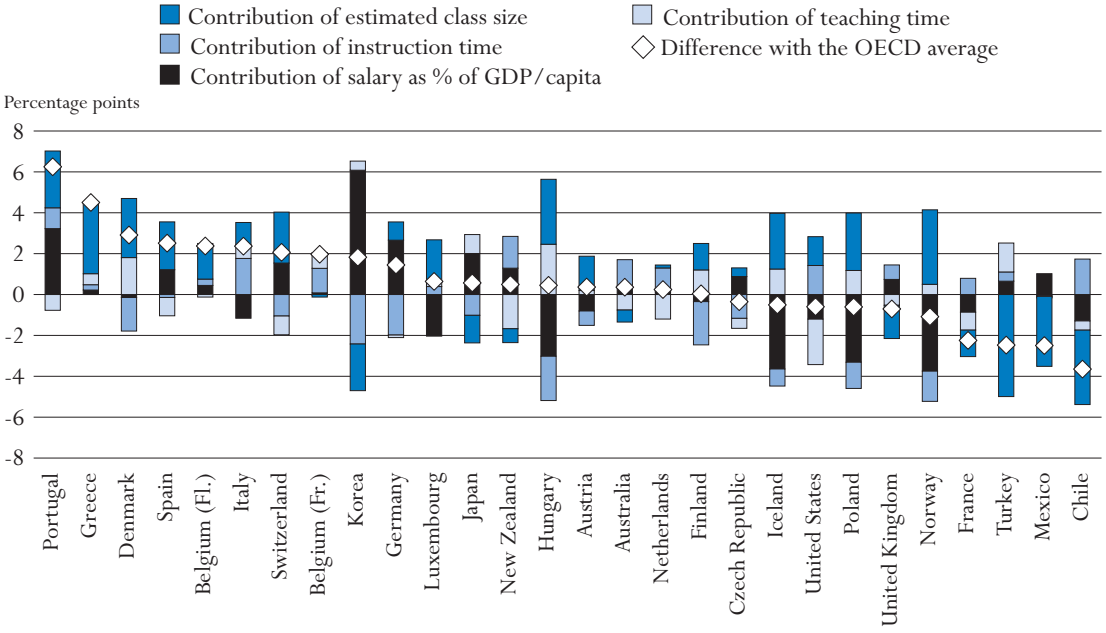
When differences in countries' wealth are controlled for, the comparison of relative salary cost per student shows a different picture (Tables B7.1, B7.2 and B7.3). Relative teachers 'salaries are less often the main driver of the difference with the average level of relative salary cost per student. For example, at each of the three levels of education, Luxembourg is not the country with the highest level of salary cost per student relative to GDP per capita, whereas it has the highest levels of salary cost per student (expressed in USD). When comparing the salary cost to

the GDP per capita, teachers' salaries are no more the main driver of the difference with the OECD average in countries that have both high levels of teachers' salaries and GDP per capita compared to other countries (for example Luxembourg and Switzerland) and also in countries that have both low levels of teachers' salaries and GDP per capita compared to other countries (for example Chile, the Czech Republic and Turkey).

More in detail, at the primary level, of the four factors contributing to the relative salary cost per student, class size is the main driver of the difference with the OECD average salary cost per student as a percentage of GDP per capita in 13 out of the 28 OECD countries with available data. This is also the main driver of the difference in five of the seven countries with the highest salary costs per student (as a percentage of GDP per capita) and in six of the seven countries with the lowest salary costs per student (as a percentage of GDP per capita). The main driver of the difference with the OECD average varies more for countries with a salary cost per student (as a percentage of GDP per capita) that is closer to the OECD average (Box B7.3 and Table B7.1).

Among OECD countries, salary cost per student represents 7.4% of GDP per capita on average. The highest relative salary costs per student are found in Portugal (13.7%) followed by Greece (11.9%). In Portugal, the high level of relative salary cost per student compared to the OECD average still results partly from teachers' salaries. Above-average relative teacher's salaries (161% of GDP per capita against an average of 118%) contribute for 3.2 percentage points (the largest contribution of the four factors) to the difference with the average relative salary cost per student.

Chart B7.3. Contribution of various factors to salary cost per student as a percentage of GDP per capita, at primary level of education (2007)



Countries are ranked in descending order of the difference between the salary cost in percentage of GDP per capita and the OECD average.

Source: OECD. Table B7.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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In Greece, the difference is mainly driven by class size. Lower than average class size (11.1 students per class against an average of 16.0) contributes for 3.5 percentage points to the difference with the average relative salary cost per student (Chart B7.3). The other three factors have minor positive effects on the difference with the OECD average relative salary cost per student: slightly higher than average relative teachers' salaries (120% of GDP per capita against 118%), slightly above-average hours of instruction for students (828 hours against 806 hours) and slightly below-average teaching hours for teachers (751 hours against 794 hours) contribute respectively for 0.2, 0.3 and 0.5 percentage point, respectively, to the difference with the OECD average relative salary cost per student (Table B7.1).

For lower secondary education, the main driver of the difference in relative salary cost per student compared to the OECD average is usually class size, but teaching time and/or teachers' salaries (relative to GDP per capita) also play a significant role (and sometimes the main one) in most countries. They definitely have more influence than at the primary level of education (Box B7.3 and Table B7.2).

On average among OECD countries, salary cost per student represents 9.3% of GDP per capita. The highest relative salary cost per student is found in Portugal (20.4%), followed by Greece (15.7%). Chile is still the country with the lowest relative salary cost per student (3.8%). In Portugal, the high level of relative salary cost per student compared to the OECD average still results partly from teachers' salaries (contribution of 3.7 percentage points) but is mainly driven by class size (contribution of 8.7 percentage points). For Chile, the main driver of the difference with the OECD average is also class size (contribution of -3.5 percentage points owing to an above-average class size of 31.2).

Relative to GDP per capita, countries' salary cost per student at upper secondary level of education varies a great deal, ranging from 3.8% of GDP per capita in Chile (less than half of the OECD average of 10.9%) to over five times that rate in Portugal and Spain (19.1% and 20.1% respectively, nearly twice the OECD average). In Portugal and Spain, relative salary cost per student is respectively 8.2 and 9.2 percentage points higher than the OECD average, a difference mainly driven by significantly below-average class size compared to other OECD countries (Table B7.3 and Box B7.3).

Teachers' salaries (as a percentage of GDP per capita) are the main driver of the deviation of relative salary cost per student from the OECD average in upper secondary education in 11 out of the 27 OECD countries for which data are available. In countries with the lowest relative salary costs per student at the upper secondary level, below-average teachers' salaries (relative to GDP per capita) are usually the main driver. This is the case in Iceland, Norway and Poland. In Hungary and the United States, lower than average teachers' salaries (as a percentage of GDP per capita) combine with either above-average class size or higher than average teaching time for teachers and result in low levels of salary cost per student.

The higher the level of education, the greater the impact of teachers' salaries and the lower the impact of class size on the difference with the OECD average relative salary cost per student. Examples are Austria, France, Hungary and Switzerland. In each of these countries, the main driver of the difference with the OECD average salary cost per student is relative teachers' salaries at upper secondary level whereas it is class size at primary level (Box B7.3).

Box B7.3. Main drivers of the difference with the OECD average salary cost per student as a percentage of GDP per capita, by level of education (2007)

	Primary education	Lower secondary education	Upper secondary education
Salary as % of GDP/capita	**7 countries** Germany (+), Iceland (–), Japan (+), Korea (+), Norway (–), Poland (–), Portugal (+)	**8 countries** Germany (+), Hungary (–), Iceland (–), Japan (+), Korea (+), Norway (–), Poland (–), Spain (+)	**11 countries** Austria (–), Belgium (Fr.) (+), France (–), Germany (+), Hungary (–), Iceland (–), Italy (–), Netherlands (+), Norway (–), Poland (–), Switzerland (+)
Instruction time	**5 countries** Australia (+), Belgium (Fr.) (+), Czech Republic (–), Finland (–), Italy (+)		**1 country** Greece (+)
Teaching time	**3 countries** Netherlands (–), New Zealand (–), United States (–)	**6 countries** Austria (+), Czech Republic (+), Italy (+), New Zealand (–), United Kingdom (–), United States (–)	**4 countries** Denmark (+), Japan (+), New Zealand (–), United States (–)
Estimated class size	**13 countries** Austria (+), Belgium (Fl.) (+), Chile (–), Denmark (+), France (–), Greece (+), Hungary (+), Luxembourg (+), Mexico (–), Spain (+), Switzerland (+), Turkey (–), United Kingdom (–)	**13 countries** Australia (+), Belgium (Fl.) (+), Belgium (Fr.) (+), Chile (–), Denmark (+), Finland (+), France (–), Greece (+), Luxembourg (+), Mexico (–), Netherlands (–), Portugal (+), Switzerland (+)	**11 countries** Australia (+), Belgium (Fl.) (+), Chile (–), Czech Republic (–), Finland (–), Korea (–), Luxembourg (+), Portugal (+), Spain (+), Turkey (–), United Kingdom (+)

Note: The positive or negative signs show whether the factor increases or decreases the salary cost per student as a percentage of GDP per capita.

Source: OECD. Tables B7.1, B7.2 and B7.3. See Annex 3 for notes (*www.oecd.org/edu/eag2009*).

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Definitions and methodologies

Salary cost per student is calculated based on teachers' salaries, the number of hours of instruction for students, the number of hours of teaching for teachers and a proxy class size.

In most cases, the values for these variables are derived from *Education at a Glance 2009*, and refer to the school year 2006-07 and the calendar year 2006 for indicators related to finance. However, in order to compensate for missing values for some variables, some data have been estimated on the basis of data published in previous editions of *Education at a Glance*. When it was not possible to make estimates or proxy figures were not available, the missing values have been replaced by the average for all OECD countries. Further details on the analysis of these factors are available in Annex 3 at *www.oecd.org/edu/eag2010*.

Table B7.1.

Contribution of various factors to salary cost per student at the primary level of education (2007)

Readers' guide: In Australia, at USD 2 778, the salary cost per student exceeds the OECD average by USD 471. Above-average salaries and above-average instruction time increase the difference from the OECD average by USD 490 and USD 431 respectively, whereas above-average teaching time and above-average estimated class size decrease the difference from the average by USD 254 and USD 197. The sum of these effects results in a positive difference from the OECD average of USD 471.

Contribution (in USD) of school factors to salary cost per student

OECD countries	Salary cost per student	Difference from the OECD average of USD 2 307	Contribution of the underlying factors to the difference from the OECD average			
			Effect (in USD) of teachers' salary below/above the OECD average of USD 36 496	Effect (in USD) of instruction time (for students) below/above the OECD average of 806 hours	Effect (in USD) of teaching time (for teachers) below/above the OECD average of 794 hours	Effect (in USD) of estimated class size below/above the OECD average of 16.0 students per class
	(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
Australia	2 778	**471**	490	431	-254	-197
Austria	2 749	**442**	56	-233	65	554
Belgium (Fl.)	3 296	**988**	364	100	-40	564
Belgium (Fr.)	3 159	**852**	241	388	251	-28
Chile	526	**-1 781**	-1 255	424	-108	-843
Czech Republic	1 555	**-752**	-430	-306	-129	112
Denmark	3 607	**1 299**	294	-543	596	953
Finland	2 433	**126**	5	-674	383	411
France	1 611	**-697**	-268	246	-273	-402
Germany	2 915	**607**	997	-636	-39	286
Greece	3 186	**879**	-355	75	155	1 004
Hungary	1 421	**-886**	-1 791	-542	630	817
Iceland	2 430	**123**	-899	-274	408	888
Ireland	m	**m**	m	m	m	m
Italy	2 876	**568**	-497	534	202	330
Japan	2 563	**255**	711	-322	293	-426
Korea	2 137	**-171**	929	-626	116	-590
Luxembourg	6 115	**3 808**	2 444	202	102	1 061
Mexico	658	**-1 649**	-893	-10	-10	-736
Netherlands	2 850	**542**	506	398	-410	49
New Zealand	2 124	**-184**	43	449	-480	-196
Norway	3 309	**1 001**	-15	-589	197	1 409
Poland	1 013	**-1 295**	-1 970	-309	288	696
Portugal	2 963	**655**	-120	260	-196	711
Slovak Republic	m	**m**	m	m	m	m
Spain	2 936	**628**	235	-43	-271	708
Sweden	m	**m**	m	m	m	m
Switzerland	3 662	**1 355**	1 176	-371	-323	873
Turkey	599	**-1 709**	-1 092	99	314	-1 030
United Kingdom	2 296	**-11**	461	231	-172	-531
United States	2 996	**689**	477	523	-830	519

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table B7.1. *(continued)*

Contribution of various factors to salary cost per student at primary level of education (2007)

Readers' guide: In Australia, at 7.8% of the GDP per capita, the salary cost per student exceeds the OECD average by 0.4 percentage point. Above-average salaries and above-average instruction time increase the difference from the OECD average by 0.4 and 1.3 percentage points, respectively, whereas an above-average teaching time and above-average class size decrease the difference from the average by 0.8 and 0.6 percentage point. The sum of these effects results in a positive difference from the OECD average of 0.4 percentage point.

Contribution (in percentage points) of school factors to salary cost per student as a percentage of GDP per capita

	Salary cost per student as % of GDP/capita	Difference from the OECD average of 7.4% of GDP/capita	Contribution of the underlying factors to the difference from the OECD average			
			Effect (in percentage points) of teachers' salary as % of GDP/capita below/above the OECD average of 118%	Effect (in percentage points) of instruction time (for students) below/above the OECD average of 806 hours	Effect (in percentage points) of teaching time (for teachers) below/above the OECD average of 794 hours	Effect (in percentage points) of estimated class size below/above the OECD average of 16.0 students per class
	(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD countries						
Australia	7.8	**0.4**	0.4	1.3	-0.8	-0.6
Austria	7.8	**0.4**	-0.8	-0.7	0.2	1.7
Belgium (Fl.)	9.8	**2.4**	0.4	0.3	-0.1	1.7
Belgium (Fr.)	9.4	**2.0**	0.1	1.2	0.8	-0.1
Chile	3.8	**-3.6**	-1.3	1.7	-0.5	-3.6
Czech Republic	7.1	**-0.4**	0.9	-1.2	-0.5	0.4
Denmark	10.3	**2.9**	-0.1	-1.6	1.8	2.9
Finland	7.5	**0.0**	-0.3	-2.1	1.2	1.3
France	5.2	**-2.2**	-0.9	0.8	-0.9	-1.3
Germany	8.9	**1.4**	2.7	-2.0	-0.1	0.9
Greece	11.9	**4.5**	0.2	0.3	0.5	3.5
Hungary	7.9	**0.5**	-3.0	-2.2	2.5	3.2
Iceland	6.9	**-0.5**	-3.6	-0.8	1.2	2.7
Ireland	m	**m**	m	m	m	m
Italy	9.8	**2.4**	-1.2	1.8	0.7	1.1
Japan	8.0	**0.6**	2.0	-1.0	0.9	-1.3
Korea	9.3	**1.8**	6.1	-2.4	0.4	-2.3
Luxembourg	8.1	**0.6**	-2.0	0.4	0.2	2.1
Mexico	4.9	**-2.5**	1.0	0.0	0.0	-3.4
Netherlands	7.7	**0.2**	0.1	1.2	-1.2	0.1
New Zealand	7.9	**0.5**	1.3	1.6	-1.7	-0.7
Norway	6.3	**-1.1**	-3.7	-1.5	0.5	3.6
Poland	6.8	**-0.6**	-3.3	-1.3	1.2	2.8
Portugal	13.7	**6.2**	3.2	1.0	-0.8	2.8
Slovak Republic	m	**m**	m	m	m	m
Spain	9.9	**2.5**	1.2	-0.1	-0.9	2.3
Sweden	m	**m**	m	m	m	m
Switzerland	9.5	**2.1**	1.5	-1.1	-0.9	2.5
Turkey	5.0	**-2.5**	0.7	0.5	1.4	-5.0
United Kingdom	6.7	**-0.7**	0.7	0.7	-0.5	-1.6
United States	6.8	**-0.6**	-1.2	1.4	-2.2	1.4

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table B7.2.

Contribution of various factors to salary cost per student at lower secondary level of education (2007)

	Contribution (in USD) of school factors to salary cost per student					
			Contribution of the underlying factors to the difference from the OECD average			
	Salary cost per student	Difference from the OECD average of USD 2 950	Effect (in USD) of teachers' salary below/above the OECD average of USD 39 470	Effect (in USD) of instruction time (for students) below/above the OECD average of 944 hours	Effect (in USD) of teaching time (for teachers) below/above the OECD average of 720 hours	Effect (in USD) of estimated class size below/above the OECD average of 17.5 students per class
	(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD countries						
Australia	3 722	**773**	432	212	-415	542
Austria	3 912	**962**	71	52	582	257
Belgium (Fl.)	4 534	**1 585**	195	64	150	1 176
Belgium (Fr.)	4 347	**1 397**	38	281	299	780
Chile	526	**-2 424**	-1 528	231	-277	-850
Czech Republic	2 376	**-574**	-809	-81	328	-11
Denmark	3 607	**657**	70	-155	343	400
Finland	3 970	**1 020**	-29	-451	673	828
France	2 385	**-565**	-386	313	349	-840
Germany	3 813	**864**	1 299	-228	-177	-30
Greece	4 187	**1 237**	-745	36	902	1 045
Hungary	1 416	**-1 533**	-2 151	-145	601	162
Iceland	2 430	**-519**	-1 220	-217	191	727
Ireland	m	**m**	m	m	m	m
Italy	3 495	**546**	-595	463	581	97
Japan	3 294	**345**	664	-263	572	-629
Korea	2 662	**-287**	960	-249	817	-1 816
Luxembourg	9 985	**7 036**	4 726	-1 187	698	2 798
Mexico	703	**-2 246**	-834	369	-610	-1 171
Netherlands	3 109	**160**	648	257	-126	-620
New Zealand	2 304	**-646**	-155	113	-775	171
Norway	3 569	**619**	-276	-437	316	1 016
Poland	896	**-2 053**	-2 207	-197	120	231
Portugal	4 426	**1 476**	-467	-156	-168	2 267
Slovak Republic	m	**m**	m	m	m	m
Spain	3 818	**869**	424	43	32	369
Sweden	m	**m**	m	m	m	m
Switzerland	5 065	**2 115**	1 791	-138	-717	1 180
Turkey	a	**a**	a	a	a	a
United Kingdom	2 667	**-283**	339	-31	-485	-106
United States	2 995	**46**	331	115	-1 233	833

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table B7.2. *(continued)*

Contribution of various factors to salary cost per student at lower secondary level of education (2007)

Contribution (in percentage points) of school factors to salary cost per student as a percentage of GDP per capita

				Contribution of the underlying factors to the difference from the OECD average			
		Salary cost per student as % of GDP/capita	Difference from the OECD average of 9.3% of GDP/capita	Effect (in percentage points) of teachers' salary as % of GDP/capita below/above the OECD average of 124%	Effect (in percentage points) of instruction time (for students) below/above the OECD average of 944 hours	Effect (in percentage points) of teaching time (for teachers) below/above the OECD average of 720 hours	Effect (in percentage points) of estimated class size below/above the OECD average of 17.5 students per class
		(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD countries	Australia	10.4	**1.1**	0.1	0.6	-1.2	1.6
	Austria	11.1	**1.8**	-0.9	0.2	1.7	0.8
	Belgium (Fl.)	13.5	**4.2**	0.0	0.2	0.5	3.6
	Belgium (Fr.)	12.9	**3.6**	-0.5	0.9	0.9	2.4
	Chile	3.8	**-5.5**	-1.8	0.9	-1.1	-3.5
	Czech Republic	10.8	**1.5**	0.6	-0.3	1.2	0.0
	Denmark	10.3	**1.1**	-0.7	-0.5	1.0	1.2
	Finland	12.2	**2.9**	-0.4	-1.4	2.1	2.6
	France	7.7	**-1.6**	-1.0	1.0	1.1	-2.7
	Germany	11.6	**2.3**	3.7	-0.7	-0.5	-0.1
	Greece	15.7	**6.4**	-0.4	0.1	3.1	3.6
	Hungary	7.9	**-1.4**	-3.8	-0.6	2.3	0.6
	Iceland	6.9	**-2.4**	-4.5	-0.7	0.6	2.2
	Ireland	m	**m**	m	m	m	m
	Italy	11.9	**2.6**	-1.1	1.5	1.9	0.3
	Japan	10.3	**1.0**	2.0	-0.8	1.8	-2.0
	Korea	11.5	**2.2**	7.1	-0.9	3.1	-7.0
	Luxembourg	13.2	**3.9**	-0.5	-2.1	1.3	5.3
	Mexico	5.3	**-4.0**	2.7	1.6	-2.8	-5.5
	Netherlands	8.4	**-0.9**	0.5	0.7	-0.4	-1.8
	New Zealand	8.6	**-0.7**	1.0	0.4	-2.7	0.6
	Norway	6.8	**-2.4**	-4.7	-1.1	0.8	2.6
	Poland	6.0	**-3.3**	-3.8	-0.8	0.5	0.9
	Portugal	20.4	**11.1**	3.7	-0.6	-0.7	8.7
	Slovak Republic	m	**m**	m	m	m	m
	Spain	12.9	**3.6**	2.2	0.1	0.1	1.2
	Sweden	m	**m**	m	m	m	m
	Switzerland	13.1	**3.8**	2.9	-0.4	-2.0	3.3
	Turkey	a	**a**	a	a	a	a
	United Kingdom	7.8	**-1.5**	0.4	-0.1	-1.5	-0.3
	United States	6.8	**-2.5**	-1.7	0.3	-3.3	2.3

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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Table B7.3.

Contribution of various factors to salary cost per student at upper secondary level of education (2007)

	Contribution (in USD) of school factors to salary cost per student					
			Contribution of the underlying factors to the difference from the OECD average			
	Salary cost per student	Difference from the OECD average of USD 3 449	Effect (in USD) of teachers' salary below/above the OECD average of USD 42 303	Effect (in USD) of instruction time (for students) below/above the OECD average of 984 hours	Effect (in USD) of teaching time (for teachers) below/above the OECD average of 655 hours	Effect (in USD) of estimated class size below/above the OECD average of 18.4 students per class
	(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD countries						
Australia	3 722	**273**	219	35	-780	800
Austria	3 760	**311**	-72	236	388	-241
Belgium (Fl.)	5 239	**1 790**	984	-104	68	842
Belgium (Fr.)	5 038	**1 589**	799	153	352	285
Chile	528	**-2 921**	-1 732	371	-468	-1 092
Czech Republic	2 529	**-920**	-912	138	226	-372
Denmark	4 406	**957**	622	-229	2 381	-1 816
Finland	2 711	**-738**	54	-229	547	-1 109
France	3 603	**154**	-728	529	207	147
Germany	4 376	**927**	1 521	-375	-339	118
Greece	4 368	**919**	-1 097	1 187	735	94
Hungary	1 502	**-1 947**	-2 009	297	421	-656
Iceland	3 164	**-285**	-904	-341	526	434
Ireland	m	**m**	m	m	m	m
Italy	3 138	**-312**	-744	338	286	-192
Japan	3 913	**464**	526	-464	1 016	-615
Korea	3 373	**-76**	916	130	1 111	-2 234
Luxembourg	9 985	**6 536**	4 693	-1 840	133	3 549
Mexico	m	**m**	m	m	m	m
Netherlands	4 024	**574**	1 513	163	-512	-590
New Zealand	2 804	**-646**	-407	5	-1 172	928
Norway	3 943	**494**	-333	-522	841	507
Poland	912	**-2 537**	-2 558	-232	-71	324
Portugal	4 141	**692**	-754	-469	-166	2 081
Slovak Republic	m	**m**	m	m	m	m
Spain	5 931	**2 481**	369	-23	-259	2 394
Sweden	m	**m**	m	m	m	m
Switzerland	6 903	**3 454**	2 702	216	-143	680
Turkey	971	**-2 478**	-1 914	-405	313	-472
United Kingdom	3 937	**487**	191	-130	-1 001	1 428
United States	2 812	**-637**	124	-11	-1 586	837

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table B7.3. *(continued)*

Contribution of various factors to salary cost per student at upper secondary level of education (2007)

	Contribution (in percentage points) of school factors to salary cost per student as a percentage of GDP per capita					
			Contribution of the underlying factors to the difference from the OECD average			
	Salary cost per student as % of GDP/capita	Difference from the OECD average of 10.9% of GDP/capita	Effect (in percentage points) of teachers' salary as % of GDP/capita below/above the OECD average of 133%	Effect (in percentage points) of instruction time (for students) below/above the OECD average of 984 hours	Effect (in percentage points) of teaching time (for teachers) below/above the OECD average of 655 hours	Effect (in percentage points) of estimated class size below/above the OECD average of 18.4 students per class
	(1)	(2) = (3) + (4) + (5) + (6)	(3)	(4)	(5)	(6)
OECD countries						
Australia	10.4	**-0.4**	-0.6	0.1	-2.3	2.4
Austria	10.7	**-0.2**	-1.4	0.7	1.2	-0.7
Belgium (Fl.)	15.6	**4.7**	2.2	-0.3	0.2	2.6
Belgium (Fr.)	15.0	**4.1**	1.7	0.5	1.1	0.9
Chile	3.8	**-7.1**	-2.2	1.5	-1.9	-4.5
Czech Republic	11.5	**0.6**	0.7	0.5	0.8	-1.4
Denmark	12.6	**1.8**	0.7	-0.7	7.2	-5.4
Finland	8.3	**-2.6**	-0.1	-0.7	1.7	-3.4
France	11.6	**0.7**	-2.1	1.7	0.7	0.5
Germany	13.3	**2.4**	4.3	-1.2	-1.0	0.4
Greece	16.4	**5.5**	-1.4	4.1	2.5	0.3
Hungary	8.3	**-2.5**	-2.7	1.1	1.6	-2.6
Iceland	9.0	**-1.9**	-3.7	-1.0	1.6	1.3
Ireland	m	**m**	m	m	m	m
Italy	10.7	**-0.2**	-1.6	1.1	0.9	-0.6
Japan	12.2	**1.3**	1.5	-1.5	3.2	-1.9
Korea	14.6	**3.7**	7.7	0.5	4.2	-8.6
Luxembourg	13.2	**2.3**	-1.5	-3.4	0.2	6.9
Mexico	m	**m**	m	m	m	m
Netherlands	10.8	**0.0**	2.7	0.5	-1.5	-1.7
New Zealand	10.5	**-0.4**	0.4	0.0	-4.0	3.2
Norway	7.6	**-3.3**	-5.4	-1.3	2.2	1.3
Poland	6.1	**-4.7**	-4.8	-0.9	-0.3	1.3
Portugal	19.1	**8.2**	2.8	-1.8	-0.6	7.9
Slovak Republic	m	**m**	m	m	m	m
Spain	20.1	**9.2**	2.3	-0.1	-0.8	7.8
Sweden	m	**m**	m	m	m	m
Switzerland	17.9	**7.0**	4.9	0.6	-0.4	1.9
Turkey	8.0	**-2.8**	-0.2	-1.8	1.4	-2.1
United Kingdom	11.5	**0.7**	-0.3	-0.4	-3.0	4.3
United States	6.4	**-4.5**	-2.5	0.0	-4.3	2.3

Source: OECD. Data from *Education at a Glance 2009 (www.oecd.org/edu/eag2009)*. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table B7.4.

Main reforms implemented between 1995 and 2010 on the four factors used to calculate salary cost per student

OECD countries	Salary of teachers (statutory salaries)	Annual amount of instruction time for students	Annual teaching time for teachers (in public institutions)	Class size or ratio of students to teaching staff
Australia	There have been no substantial policy reforms directly on teachers' salaries at the national level over the previous ten years that can be identified as affecting Indicator B7 directly. However, under the recent Teacher Quality National Partnership Agreement, the Commonwealth government is working with state and territory governments on a range of reforms to improve the quality of teaching and school leadership in schools. These reforms will include improvements to teacher pay to reward quality teaching and improve reward structures for teachers and leaders who work in disadvantaged indigenous, rural/remote and hard-to-staff schools. These reforms are still in the early stages and it is not yet possible to determine how they will affect teachers' salaries.	There was no reform in this area.	There was no reform in this area.	There have been no substantial policy reforms directly concerning class sizes at the national level over the previous ten years that can be identified as affecting the indicator directly. However, several states/territories have made resourcing commitments to help improve class sizes within their state/territory.
Austria	There was no reform in this area.	Decrease in instruction time for students. Beginning with the school year 2003-04, the number of teaching periods was reduced by 2 periods per class (ISCED 3) and 1.5 periods per class (on average, ISCED 2). The number of teaching periods is stipulated in the various curricula which are federal ordinances enacted by the Ministry of Education. As a consequence, public expenditure on teacher salaries decreased.	There was no reform in this area.	Beginning with the school year 2007-08, the maximum number of pupils per class was reduced by five in schools at ISCED 1 and 2. At ISCED 1 (primary schools) and ISCED 2 (*Hauptschulen:* general secondary schools) the regional provinces were responsible for amending the respective regional School Organisation Acts. In respect of ISCED 2 (*Allgemein bildenden höhere Schulen:* academic secondary schools) the Federal School Organisation Act was amended. At ISCED 3 the maximum number of pupils per class was left unchanged. However, possibilities for splitting classes into small groups were enlarged for certain subjects. As a result expenditure on teacher salaries will rise considerably up to 2010-11.
Belgium (Flemish Community)	Identical teacher's salaries in primary and lower secondary education. Before September 2000, the statutory salary was different for teachers in ISCED 1 and ISCED 2. Since 1 September 1999 the statutory salary of these two types of teachers gradually became the same. The implementation was completed on 1 September 2004.	Since September 2001, the maximum annual instructional hours in secondary education has been set at 1 200 hours.	Since September 1997, the weekly teaching time for teachers in primary education has been a maximum of 27 hours of 50 minutes (previously 28 hours of 50 minutes). Similar reforms were introduced in 1989 in secondary education.	As of 1 September 2002, there was an integrated support provision for children from deprived backgrounds for equal opportunities in education. Extra support for additional needs in schools has been made available. The support is aimed at schools that have a rather large number of pupils with certain socio-economic indicators. This extra support consists in additional teaching periods. Compared to 2002, about 1.7% additional teaching hours have been awarded on this basis to schools in regular secondary education.

Table B7.4. *(continued-1)*

Main reforms implemented between 1995 and 2010 on the four factors used to calculate salary cost per student

OECD countries

	Salary of teachers (statutory salaries)	Annual amount of instruction time for students	Annual teaching time for teachers (in public institutions)	Class size or ratio of students to teaching staff
Czech Republic	Statutory rule 469/2002 Sb, subsequently amended: The salary scales have 16 categories (according to the complexity of work) and 12 steps (according to the length of service). The tariffs in the scale valid for the remuneration of teachers overrides those in the basic scale, but are lower than in the scale for some other groups of employees, *e.g.* in the health service. All teachers who are fully qualified are entitled to salary advancement within the salary scale, irrespective of the type of contract or the form of the employment relationship. Educational staff are placed in the range between 8th and 13th categories, with the 14th category being used for educational staff only in exceptional circumstances. Statutory rules 74/2009 Sb.: Non-pedagogical staff has been included in salary scales of pedagogical staff (salaries of non-pedagogical staff increased).	The reform of curricula (transfer to Framework Educational Programme [FEP]) which started in 2005 will be implemented from 2007-08 to 2011-12 in primary and secondary education. Substantial changes were done in the timetable of FEP, *e.g.* more hours are flexible. The FEP sets key competences, outputs of educational areas composed of educational fields, which are compulsory, and recommended content of education. It also sets the cross-curricular topics. The school educational programmes set the individual subjects – the subjects can be the same as the educational fields and cross-curricular topics, they can integrate the fields/topics or the fields can be divided into more subjects. The form of modules or courses can also be used. The outputs must be fulfilled and the time allocated to individual educational areas/fields must be observed. All schools must teach according to their school educational programme.	Since 2005: Headmasters can increase the number of teaching hours for teacher of 3 hours per week (within a limit of 24 hours per week).	There was no reform in this area.
Finland	A new salary system has been implemented for education staff since 2007. Earlier salaries were based on the number of teaching hours and years of service. In the new system the salaries are based on the tasks and their requirements and the results of the work, the professionalism of the staff and work experience. In addition a bonus can be paid based on the results of the institution. There is also room for local flexibility in the salary system. The Trade Union of Education hopes that employers, that is, local authorities, will make more frequent use of this opportunity to pay their employees more than the minimum salaries determined in national agreements. It is too early to determine the quantitative impact of the new salary system.	Since 1 August 2001, all programmes leading to upper secondary vocational qualifications take three years to complete and comprise 120 credits (one credit is equal to 40 hours of students' average workload). Before that, the completion of an initial vocational qualification took 2-3 years. In 1999, slightly less than one-third of students started in study programmes lasting 2 or 2.5 years. The distribution of lesson hours in general upper secondary education was also reformed by a Government Decree in 2002, which did not change the minimum total number of students' courses.	The conditions of service for teachers, including teaching time, are agreed in a collective bargaining process and in the relevant legislation (length of school year, etc.). Most teachers' working hours are based on teaching duties. In some fields of vocational upper secondary education and training, teachers have overall teaching/working hours. This was introduced in different years in different fields.	There was no reform in this area.
France	There was no reform in this area.	At the start of the 2008 school year, a new oganisation of the school week was introduced in primary schools. Saturday morning classes were removed. The school week is now composed of 24 hours of teaching over four days (Monday, Tuesday, Thursday and Friday), or nine half-days including Wednesday mornings. The maximum duration of a school day is still six hours. When the need arises, pupils may receive two hours of tutoring per week by a teacher (in the school), on top of the 24 hours of regular classes. The school year now has 864 hours of instruction instead of 962 hours previously.	There was no reform in this area.	There was no reform in this area.
Hungary	There was no reform in this area.	In 2004-05 a modified National Core Curriculum was introduced at grade 1. From 2003-04 new (also recommended) frame curricula with fewer lessons were introduced in grades 5, 9 and 10. In 2005-06 this curriculum was extended to grades 3 and 7. Altogether, the changes resulted in an 8-10% decrease in the amount of compulsory instruction time.	Since 2006: Increase in the number of compulsory hours of teaching from 20 to 22 at ISCED 2 and 3. The change resulted in a 10% increase in teachers' compulsory teaching time.	There was no reform in this area.
Italy	More autonomy for schools to set teacher's salaries. The salary is made up of basic and additional compensation. The increase for both parts is defined on the basis of the price index. Owing to the law on autonomy, from 2000 the additional salary is assigned according to criteria defined at the level of the school.	Establishment of the minimum and maximum number of instruction hours in 2005 and 2009.	There was no reform in this area.	In 2006: Increase of 0.40 in the average number of students per class in primary and secondary education. Since 2009, no fewer than 15 and at most 25 in primary education, no fewer than 18 and at most 25 in lower secondary, and no fewer than 27 in upper secondary education.

Table B7.4. *(continued-2)*

Main reforms implemented between 1995 and 2010 on the four factors used to calculate salary cost per student

OECD countries	Salary of teachers (statutory salaries)	Annual amount of instruction time for students	Annual teaching time for teachers (in public institutions)	Class size or ratio of students to teaching staff
Mexico	There was no reform in this area.	There was no reform in this area.	There was no reform in this area.	There was no reform in this area.
Netherlands	Reduction of career line: in 2000 with 2 steps (years), in 2001 with three steps, in 2002 with two steps. At that moment (in 2002) the career line had 18 steps. This reduction cost about EUR 100 million and EUR 60 million in primary and secondary education, respectively. Teachers with the maximum salary will get an extra allowance of EUR 1 850 and EUR 1 000 in primary and secondary education, respectively.	Reduction of instruction time from 1 067 to 1 040 and finally to 1 000 hours in 2009 in lower secondary education.	Reduction of teaching time from 867 hours in 2001 to a maximum of 750 hours in 2009. School boards for secondary education have a high degree of autonomy on decision making, including on teaching time. Since 2004, the collective labour agreement no longer contains formal regulations on teaching time for teachers in secondary education. In the past there was a maximum of 750 (or 867) clock hours a year. In the new collective labour agreement 2008-10 teacher unions and the employers organisation for secondary education have noted that the maximum teaching time should be 750 clock hours again, with commencing date 1 August 2009. From that date, the individual (full time) teacher yearly has the right to exchange 24 hours of teaching time for other school activities or payment. In addition to this, an analysis on the integral work force count of teachers in secondary education (IPTO-VO) has shown that, converted to the average of a full time teacher, teaching time is 690 clock hours, assuming that the number of weeks a teacher teaches per annum is 38.5.	Investments in reduction of class size. Reduction of pupil to teacher ratio from 18.6 in 2000 to 16.2 in 2008 (special education excluded). Growth in the number of teacher aides from 5 000 FTE in 2002 to 8 000 FTE in 2007.
Norway	The first deal between the government and teacher unions was signed in May 2000 (*skolepakke* 1) and the second in October 2001 (*skolepakke* 2). Teachers were awarded two pay grades from 1 August 2000 in the first deal, and three pay grades in the second deal (three pay grade from 1 January 2002 and two pay grades from August 2002). The total increase of five pay grades was equivalent to approximately an 8% increase in salaries.	Increase of 3 hours a week (85.5 hours a year) in reading, writing and literature at grades 1-4 in 2002, increase of 3 hours a week (85.5 hours a year) in reading, writing and literature and 2 hours a week (57 hours a year) in mathematics at grades 1-4 in 2004, increase of 1 hour a week (28.5 hours a year) in mathematics, science, social studies and modern foreign languages at grades 1-4 in 2005, increase of 76 hours a year in mathematics and reading, writing and literature, and 38 hours in modern foreign languages at grades 1-4 in 2008, increase of 76 hours a year in physical education at grades 5-7 in 2009 and increase of 38 hours a year at any subject or grade according to school owners' assessment in 2010.	1 hour increase in teaching hours per week in primary school was included in the second deal (*skolepakke* 2). 1 % increase from 1 January 2002, and 3 % increase from 1 August 2002 (4% = 1 hour).	Norway used to have a fairly rigid system, with permanent classes and a maximum number of students per class, depending on the age of the students (28 per class in primary school – grades 1-7, 30 in lower secondary – grades 8-10, and in upper secondary, 15 in professionally oriented upper secondary). In 2003, this system was abandoned. The system of classes and maximum numbers was replaced by a more liberal system which conferred a large degree of discretionary power on the municipalities. The key words are "justifiable", "pedagogy", and "security". A condition of the introduction of this system was that the municipalities might not use it to save money.

Table B7.4. *(continued-3)*

Main reforms implemented between 1995 and 2010 on the four factors used to calculate salary cost per student

OECD countries

	Salary of teachers (statutory salaries)	Annual amount of instruction time for students	Annual teaching time for teachers (in public institutions)	Class size or ratio of students to teaching staff
Portugal	1999, 2007 and 2009: Revision of the salaries and years to go from minimum to maximum salary.	Reorganisation of (upper) secondary education. The total compulsory flexible curriculum increased from 2 disciplines (6 classes per week) to 3 disciplines (9 classes per week) and 205.2 sessions (307.8 hours) to 307.8 sessions (461.7 hours) per year, respectively. Consequently, the total intended curriculum increased from 581.4 sessions (872.1 hours) to 615.6 sessions (923.4 hours).	Changes to the Teacher's Career Statute. The Decree-Law nr. 15/2007 increased the number of teaching hours per week in upper secondary education from 20 hours per week to 22 hours per week (respectively, an increase in the number of hours a teacher teaches per year from 684 hours per year to 752.4 hours per year).	There was no reform in this area.
Spain	New Education Act passed 3 May 2006, implemented from 2007-08 to 2010-11. The reforms established by this Act do not affect the subjects included in this survey. These subjects remain the same as those in the Teachers and Curriculum Survey 2009.			
Sweden	There have been no reforms/changes since 2000 in Swedish education policy with consequences for the factors used in the analysis for Indicator B7.			
Switzerland	According to this important feature of federally-organised Switzerland, teachers' salaries, the annual hours of instruction time for students and the annual hours of teaching time for teachers are determined by each Canton individually. In the context of the questions on metadata for Indicator B7, this means that there are no reforms that are valid on the national level. There have been relevant reforms in the last ten years in single Cantons, but their impact affects only some Swiss teachers and/or students. In the Canton of St. Gall, for example, the total instruction time in primary school (6 years) increased from 5 100 to 5 460 hours between 1998 and 2008. But primary school students in St. Gall represent only about 7 % of total Swiss primary school students (and 8% of teachers).			
United Kingdom	Between 1999 and April 2002, starting pay for teachers in England and Wales was based on a nine-point scale. They were then able to progress to a post-threshold higher five-point scale. From September 2002 the pay scales were revised (shortened) to the current main (six-point) and upper (three-point) scales. A review in November 2003 led to the introduction of new (higher) pay scales for those working in outer London and the Fringe (around London). Management allowances were also reformed. Scotland: A new pay structure was introduced in 2002 following a review in 2000.	The school year in England consists of 380 half-day sessions; one in the morning between around 9 am and 12 noon, the other in the afternoon usually between 1 pm and 3:30 pm. There is no fixed number of lessons per week. Recommended minimum weekly lesson times (excluding breaks) are: 21 hours for 5-7 year-olds; 23.5 hours for 7-11 year-olds; 24 hours for 11-14 year-olds; and 25 hours for 14-16 year-olds.	Teachers are contracted to work 1 265 hours per year. There is no statutory amount of teaching time within this total number of hours. From 1 September 2005, all teachers at a school (including head teachers) with timetabled teaching commitments have a contractual entitlement to guaranteed planning, preparation and assessment time for a minimum of at least 10% of their timetabled teaching time. Scotland: An annual working week of 35 hours was introduced from August 2001, with class contact time reduced in stages, ultimately to 22.5 hours per week in 2006.	The (English) government pledged in its 1997 election manifesto to limit the size of classes for 5, 6 and 7 year-olds to no more than 30 pupils. The School Standards and Framework Act placed a duty on schools to limit the size of classes for 5, 6 and 7 year-olds taught by one qualified teacher to 30 or fewer pupils. The limit became a statutory duty from September 2001, the start of the 2001-02 school year. Scotland: A 1999 regulation limited class sizes in the first three years of primary school (P1, P2 and P3) to a maximum of 30 from August 1999, August 2000 and August 2001, respectively. The limit was reduced to 25 in 2007-08 (Government Circular 1-2007). (Other primary classes have a limit of 33.) In secondary, Maths and English classes were reduced to a maximum of 20 pupils by Government Circular 1/2007.

Table B7.4. *(continued-4)*

Main reforms implemented between 1995 and 2010 on the four factors used to calculate salary cost per student

		Salary of teachers (statutory salaries)	Annual amount of instruction time for students	Annual teaching time for teachers (in public institutions)	Class size or ratio of students to teaching staff
OECD countries	**United States**	Teachers' salaries in the United States are determined by individual states and districts.	State requirements for the number of instructional days and hours per year vary. While there is no national standard, the general trend since 1980 has been to increase instructional time (ECS, Zaleski and Colasanti, June 2008, *www.ecs.org/html/educationIssues/ECSStateNotes.asp?nIssueID=102v*). National average is 180 school days per year.	State and district requirements on the number of teaching hours within public institutions vary. Additionally, hours per school day vary among states.	There are no nationally set guidelines on student to teacher ratios. NCLB-Title II Teacher Quality Block Grants may be used to reduce class size, but do not legislate what is required (*www.ed.gov/offices/OESE/ClassSize/index.html*). Some districts, such as New York City, have negotiated caps with the local teachers unions.
Partner country	**Brazil**	In 2007 a law created the Fund for Development of Basic Education and Teaching Valuation (Fundeb). This fund's resources were destined to state and municipal teaching nets based on the number of students enrolled in ISCED 0, 1, 2 and 3. At least 60% of the total annual resources of this fund, in each state and in the Federal District, must be destined for the payment of professionals who are acting in ISCED 0, 1, 2 and 3. A law of 2008 establishes a minimum national salary to teachers of ISCED 0, 1, 2 and 3.	There was no reform in this area.	There was no reform in this area.	There was no reform in this area.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Chapter

C

Access to Education, Participation and Progression

INDICATOR C1

WHO PARTICIPATES IN EDUCATION?

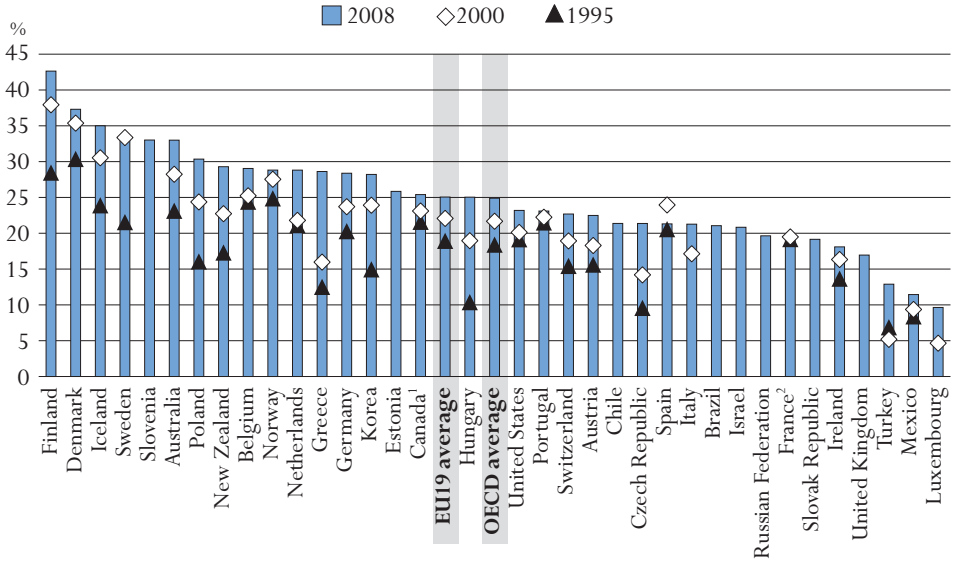
This indicator examines access to education and its evolution using information on enrolment rates and trends from 1995 to 2008. It also shows patterns of participation in early childhood education and at the secondary and tertiary levels of education, and the comparative roles played by public and private providers of education across OECD and partner countries.

Key results

Chart C1.1. Enrolment rates of 20-29 year-olds (1995, 2000 and 2008)

Full-time and part-time students in public and private institutions

In Australia, Denmark, Finland, Iceland, Poland and Sweden, and in the partner country Slovenia, more than 30% of the population aged 20 to 29 is enrolled in education. From 1995 to 2008, enrolment rates of 20-29 year-olds increased by 7.7 percentage points and by 3.5 percentage points from 2000 to 2008 among countries with available data.



1. Year of reference 2007 instead of 2008.
2. Excludes overseas departments for 1995 and 2000.

Countries are ranked in descending order of the enrolment rates of 20-29 year-olds in 2008.

Source: OECD. Table C1.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

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Other highlights of this indicator

- In most OECD countries over the last decade, virtually everyone has had access to at least 12 years of formal education. In Belgium, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, the Netherlands, Norway, Spain, Sweden and the partner country Estonia at least 90% of students are enrolled in education for 14 years or more. Enrolment rates for a period of 11 years exceed 90% in Greece, Korea, Mexico and the United States, but the 90% mark is only reached for seven and nine years in Turkey and the partner country Brazil respectively. In seven countries this period was one year longer than in 2007; it was three years longer in the partner country Estonia.

- In more than one-half of OECD countries, more than 70% of 3-4 year-olds are enrolled in either pre-primary or primary programmes. Children aged 4 and under are more likely to be enrolled in a programme in one of the 19 European Union countries that are members of the OECD (EU19) than in one of the other OECD countries. The average enrolment rate for 3-4 year-olds is 80% for the EU19 but less than 72% for the OECD.

- Enrolment rates for 15-19 year-olds increased on average from 74% to 82% from 1995 to 2008. In Belgium, Poland and the partner country Slovenia, they reached more than 90% in 2008 (in Belgium, they had already reached this level in 1995). The pattern is similar for 20-29 year-olds, the age span during which most students are enrolled in tertiary education; between 1995 and 2008, their enrolment rates increased in all OECD countries except in Portugal.

- In around one-third of countries with available data, the enrolment rate for 15-19 year-olds and for 20-29 year olds is levelling off in the last five years, which may indicate a saturation point. In upper secondary education this can be due to almost universal coverage.

C1

Policy context

A well-educated population is essential to a country's economic and social development. Societies therefore have an intrinsic interest in ensuring that children and adults have access to a wide variety of educational opportunities. Early childhood programmes prepare children for primary education; they provide opportunities to enhance and complement their educational experiences at home and can help combat linguistic and social disadvantages. Primary and secondary education lay the foundation for the development of a broad range of competences and prepare young people to become lifelong learners and productive members of society. Tertiary education, either directly after initial schooling or later in life, provides a range of options for acquiring advanced competencies.

Various factors, including increased risks of unemployment and other forms of exclusion for young adults with insufficient education, have strengthened the incentive to remain in school beyond the end of compulsory education and to graduate from upper secondary education. In most OECD countries, graduation from upper secondary education is becoming the norm, and most upper secondary programmes prepare students for tertiary studies (see Indicator A2).

High tertiary participation rates help to ensure the development and maintenance of a highly educated population and labour force. Moreover, tertiary education programmes are generally associated with better access to employment (see Indicator A6) and higher earnings (see Indicator A7). Rates of entry into tertiary education are a partial indication of the degree to which a population is acquiring the high-level skills and knowledge valued by the labour market in today's knowledge society (see Indicator A2).

As students have become more aware of the economic and social benefits of tertiary education, graduation rates for tertiary education have risen in most countries, especially for teriary-type A programmes (see Indicator A3). Tertiary-type A programmes dominate tertiary enrolments and absorb a large proportion of the available resources, as they tend to be longer than other tertiary programmes (see Indicator B1).

The continuing rise in participation and the widening diversity of backgrounds and interests among those aspiring to tertiary studies raises the question on the extent to which tertiary institutions need to expand admissions and adapt their programmes to the needs of new generations of students. In addition, the internationalisation of tertiary education means that some educational institutions may also have to adapt their curriculum and teaching methods to a culturally and linguistically diverse student body (see Indicator C2).

Evidence and explanations

In most OECD countries today, virtually everyone has access to at least 12 years of formal education, however, patterns of participation in education throughout people's lives vary widely among countries. In Belgium, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, the Netherlands, Norway, Spain Sweden and the partner country Estonia, at least 90% of the population is enrolled in education for 14 years or more. In contrast, enrolment rates exceed 90% for a period of 11 years in Greece, Korea, Mexico and the United States, and the 90% mark is only reached for 7 years and for 9 years in Turkey and the partner country Brazil (Table C1.1). In Greece, Italy, Mexico, Norway and Turkey the period for which 90% of the population is enrolled is one year longer than it was in 2007. In the partner country Estonia it is three years

longer. However, in Chile, Korea, Sweden and the partner countries Brazil and Israel the 90% mark is reached for one year less than in 2007. In the case of Chile and the partner country Brazil decrease happens even if both countries present one of the five shorter periods.

Participation in early childhood education

Children aged 4 and below are more likely to be enrolled in a programme in one of the 19 European Union countries that are members of the OECD than in other OECD countries. The average enrolment rate for 3-4 year-olds is 80% for the EU19 but only 57% for OECD countries not in European Union.

In the majority of OECD and partner countries, full enrolment (defined here as enrolment rates exceeding 90%) begins between the ages of 5 and 6. However, in more than one-half of OECD countries, at least 70% of 3-4 year-olds are enrolled in either pre-primary or primary programmes (Table C1.1).

Early childhood education and care is very valuable in building a strong foundation for lifelong learning and in ensuring equitable access to later learning opportunities. Many countries have recognised this by making pre-primary education almost universal for children by the time they are 3 years of age. However, institutionally based pre-primary programmes covered by this indicator are not the only available form of effective early childhood education and care. Inferences about access to and quality of pre-primary education and care should therefore be made with caution.

Participation in upper secondary education

A range of factors – including better employment outcomes for the more educated – has strengthened the incentive for young people to remain in school beyond the end of compulsory education and to graduate from upper secondary education. The continued rise in participation in upper secondary education means that countries have to cater to a more diverse student population at that level.

Countries have taken various approaches to meeting these demands. Some have comprehensive secondary systems with non-selective general/academic programmes so that all students have similar opportunities for learning; others provide more diversified education programmes (academic, pre-vocational and/or vocational programmes, see Definitions and methodologies section).

Enrolment rates for the 15-19 year-olds indicate mostly the number of individuals participating in upper secondary education. There has been an average increase of 8 percentage points in the proportion of 15-19 year-olds enrolled in education in OECD countries between 1995 and 2008 (average annual growth of 0.9). Enrolment rates for this age group increased on average from 74% to 82% from 1995 to 2008, and amounted to more than 90% in 2008 in Belgium, Poland and the partner country Slovenia (Belgium had already reached 90% or more in 1995) (Table C1.2). However, even though enrolment rates for 15-19 year-olds have improved by more than 20 percentage points during the past 13 years in the Czech Republic, Greece and Hungary, they have remained virtually unchanged in Australia, Belgium, Canada, Germany and the Netherlands where a high proportion of their 15-19 year-olds is enrolled in education. In France enrolment rate in this population group decreased from 89% to 86%.

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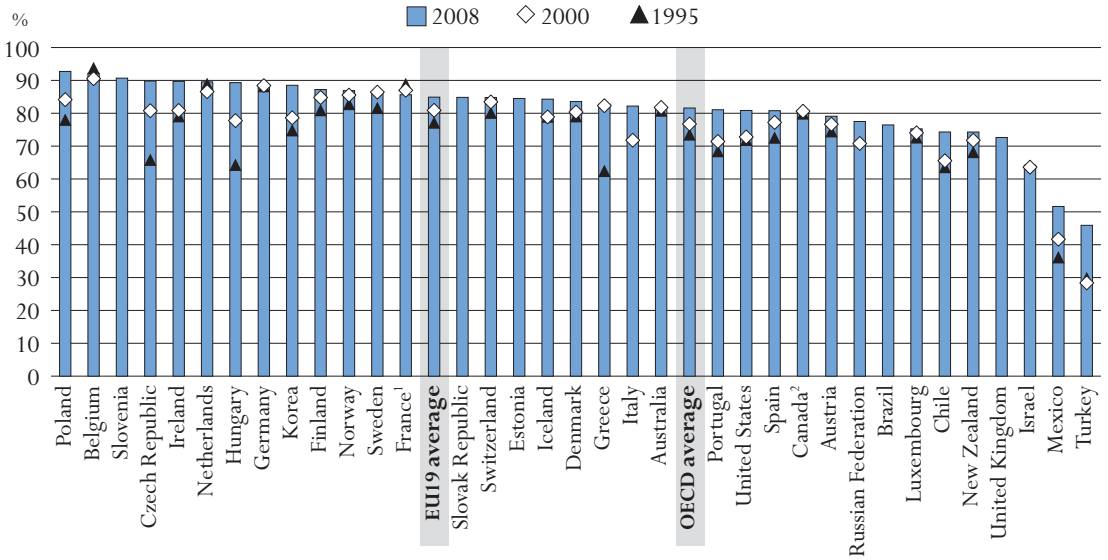
Over the past five years in OECD countries, growth in enrolled 15-19 year-olds has slowed to an increase of almost 3 percentage points, *i.e.* to an annual average of 0.6. In around one-third of countries with available data, the enrolment rate is levelling off, which may indicate a saturation point due to almost universal coverage. However, in Luxembourg and the partner country Israel, the enrolment rate was still below 85% from 2003 to 2008 and in Denmark, France, Germany and Sweden it was below 90% (Table C1.2 and Chart C1.2).

Chart C1.2. Enrolment rates of 15-19 year-olds (1995, 2000 and 2008)

Full-time and part-time students in public and private institutions



1. Excludes overseas departments for 1995 and 2000.
2. Year of reference 2007 instead of 2008.

Countries are ranked in descending order of the enrolment rates of 15-19 year-olds in 2008.

Source: OECD. Table C1.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310415

Vocational and apprenticeship programmes

Vocational programmes differ in structure among OECD countries with different combinations of vocational or pre-vocational studies with apprenticeship programmes.

Vocational programmes

Among countries for which data are available, in 13 OECD countries and in the partner country Slovenia, the majority of upper secondary students pursue pre-vocational or vocational programmes. In most OECD countries with dual-system apprenticeship programmes (Austria, Germany, Luxembourg, the Netherlands and Switzerland) and in Australia, Belgium, the Czech Republic, Finland, Italy, Norway, the Slovak Republic, Sweden and the partner country Slovenia, 55% or more of upper secondary students are enrolled in pre-vocational or vocational programmes. However, in Canada, Chile, Greece, Hungary, Iceland, Ireland, Japan, Korea, Mexico, Portugal, Turkey, the United Kingdom and the partner countries Brazil, Estonia and Israel, 60% or more of upper secondary students are enrolled in general programmes even though pre-vocational and/or vocational programmes are offered (Table C1.4).

In many OECD countries, upper secondary vocational education is school-based. However, in Austria, the Czech Republic, Iceland and the Slovak Republic, some 40% or more of students in vocational programmes participate in programmes that combine school- and work-based elements. In Denmark, Germany, Hungary and Ireland, around 75% or more of students in vocational programmes are enrolled in programmes that have both school- and work-based elements.

Upper secondary students in many education systems can enrol in vocational programmes, but some OECD countries delay vocational training until after graduation from upper secondary education. While vocational programmes are offered as advanced upper secondary programmes in some OECD countries (*e.g.* Austria, Hungary and Spain), similar programmes are offered as post-secondary education in others (*e.g.* Canada).

Apprenticeship programmes

Table C1.4 includes enrolments in apprenticeship programmes that are a recognised part of countries' education system. This section provides information on the typical characteristics of these programmes and other work-based learning programmes.

In most OECD countries, except in Chile, Greece, Italy, Japan, Korea, Portugal, Spain, Sweden and the partner countries Brazil and Estonia, some form of apprenticeship system exists. In some countries (*e.g.* Austria, Germany and Hungary), apprenticeship contracts are established between a student (not the vocational training school) and a company. The majority of countries have combined school- and work-based apprenticeship programmes. Sweden is currently piloting apprenticeship training as a complement to school-based education and in the United States, there are apprenticeship programmes, but they generally are not part of the formal education system.

The minimum entry requirement for apprenticeship programmes varies but is typically the completion of lower secondary education; this is true in the Czech Republic, Denmark, Finland, France, Germany, Ireland, Luxembourg, Mexico, the Netherlands, Norway, Poland, the Slovak Republic and the partner countries Israel and Slovenia. In Austria, students must have completed a minimum of nine years of compulsory schooling while in the United States the criterion is the completion of upper secondary education. In Australia, Belgium, the Netherlands, New Zealand and the United Kingdom, entry is governed (in full or in part) by age criteria, while in New Zealand, participants must also be employed. In Turkey, the minimum requirement is completion of primary education, but entrants must be at least 14 years old and have a contract with a workplace. In the partner country the Russian Federation, there is no legal framework for entry into apprenticeship programmes.

In some countries the duration of apprenticeship programmes is standardised; it ranges from one to four years in the Czech Republic, Denmark, France, Germany, Ireland, New Zealand, Norway, Poland, the United Kingdom and the partner countries Israel and Slovenia. In other countries (*e.g.* Austria and Belgium), it varies according to subject, specific qualification sought, previous knowledge and/or experience.

In most countries, the successful completion of an apprenticeship programme usually results in the awarding of an upper secondary or post-secondary qualification. In some countries, higher qualifications are possible (such as an advanced diploma in Australia).

Participation towards the end of compulsory education and beyond

Several factors influence the decision to stay enrolled in school beyond the end of compulsory education, particularly the limited prospects of young adults with insufficient education; in many countries they are at greater risk of unemployment and other forms of exclusion than their more educated peers. In many OECD countries, the transition from education to employment has become longer and more complex, providing the opportunity or the necessity to combine learning and work to develop marketable skills (see Indicator C3).

The age at which compulsory education ends ranges from 14 in Korea, Portugal, Turkey and the partner country Slovenia to 18 in Belgium, Canada (in some provinces), Chile, Germany, Hungary and the Netherlands (Table C1.1). However, the statutory age at which compulsory education ends does not always correspond to the age at which enrolment is over 90% of the population.

In most OECD and partner countries, participation rates tend to be high to the end of compulsory education. However, in Belgium, Chile, Germany, Hungary, Mexico, the Netherlands, New Zealand, Turkey and the United States, the rates drop below 90% before the end of compulsory education (Tables C1.1 and C1.3). In Belgium, Chile, Germany, Hungary, the Netherlands and the United States, this may be due, in part, to the fact that compulsory education ends relatively late at age 18 (age 17, on average in the United States).

In most OECD and partner countries, enrolment rates decline gradually during the last years of upper secondary education. More than 20% of 15-19 year-olds are not enrolled in education in Austria, Chile, Luxembourg, Mexico, New Zealand, Turkey, the United Kingdom and the partner countries Brazil, Israel and the Russian Federation (Table C1.1 and Chart C1.2).

End of compulsory education and decline in enrolment rates

An analysis of participation rates by level of education and single year of age shows that there is no close relationship between the end of compulsory education and the decline in enrolment rates. In most OECD and partner countries, the sharpest decline in enrolment rates occurs not at the end of compulsory education, but at the end of upper secondary education. After age 16, however, enrolment rates begin to decline in almost all OECD and partner countries. In Sweden and in partner country Slovenia this happens after age 17. Enrolment rates in secondary education fall from 92% on average at age 16 to 83% at age 17, 52% at age 18 and 26% at age 19. In Belgium, the Czech Republic, Finland, Germany, Hungary, Japan, Norway, Poland, the Slovak Republic, Sweden and the partner countries Estonia and Slovenia, 90% or more of all 17-year-olds are still enrolled at this level, even though compulsory education ends at less than 17 years of age in most of these countries (Table C1.3).

Participation of young adults in education

Enrolment rates for the 20-29 year-olds indicate mostly the number of individuals participating in tertiary education. On average in OECD countries, 25% of this age group was enrolled in education in 2008. Enrolment rates were 30% or more in Australia, Denmark, Finland, Iceland, Poland, Sweden and in the partner country Slovenia (Table C1.1 and Chart C1.1). However, it should be noted that tertiary enrolment rates for countries with large proportions of international students relative to population size may be overestimated. For more information on the impact of

international students on entry rates and graduation rates at the tertiary education level, please refer to Indicators A2 and A3 respectively, where adjustments for the impact of international students were made.

Policies to expand education have led to greater access to tertiary education in many OECD and partner countries. So far this has more than compensated for the declines in cohort sizes, which until recently had led to predictions of stable or declining demand in several OECD countries. On average, in all OECD countries with available data, participation rates for the 20-29 year-olds grew by 6.5 percentage points from 1995 to 2008 (*i.e.* an average annual growth of 0.7 percentage points). Almost all OECD and partner countries saw some degree of increase in participation rates of 20-29 year-olds. This growth was about or over 12 percentage points in the Czech Republic, Finland, Greece, Hungary, Iceland, Korea, New Zealand, Poland and Sweden, and particularly significant in the Czech Republic, Greece and Hungary, which were previously at the bottom of the scale of OECD countries but recently moved up to the middle. Although some OECD countries (France, Portugal and Spain) show signs of a levelling of tertiary enrolment rates, the overall trend remains upwards.

The trend over the last five years shows a different pattern. As for 15-19 year-olds, the growth in enrolment 20-29 year-olds is affected by a levelling in enrolment rates in about one-third of countries with available data from 2003 to 2008. This is reflected in an average annual increase of only 0.2 percentage points over this period. Among the countries with stable rates, Australia, Denmark, Iceland, New Zealand and Sweden recorded enrolment rates of over 30% in these years. In contrast, they never exceeded 25% in France, Ireland, Portugal, Spain, the United States and the partner countries Brazil and Israel. However, rates have risen by more than 3% in Austria, the Czech Republic, Luxembourg and the Netherlands and by more than 6% in the Slovak Republic and Turkey. Across OECD countries, trends in enrolment rates for 15-19 year-olds and 20-29 year-olds for all available years are highly correlated (Table C1.2 and Chart C1.1).

The relative size of the public and the private sectors

In OECD and partner countries, the choice of schools at the primary and secondary levels is predominantly provided by public institutions. On average, 90% of primary education students in OECD countries are enrolled in the public sector; the figures decline slightly in secondary education, with 83% of lower secondary students and 82% of upper secondary students taught in public institutions. Japan, Mexico and Portugal are exceptions at the upper secondary level, as independent private providers (those that receive less than 50% of their funds from government sources) take in 31%, 19% and 18%, respectively, of students (Table C1.5 and Indicator D5).

At the tertiary level, the pattern is quite different. Private providers generally play a more significant role. In tertiary-type B programmes, the private sector accounts for more than one-third of students, and in tertiary-type A and advanced research programmes it accounts for almost one-fourth of students. In the United Kingdom, all tertiary education is provided through government-dependent private institutions. Such providers also receive more than half of tertiary-type B students in the partner country Israel (65%). Government-dependent private providers also account for a significant share of tertiary-type A and advanced research programmes in the partner countries Estonia (86%) and Israel (79%). Independent private

providers are more prominent at the tertiary level than at pre-tertiary levels (an average of more than 15% of tertiary students attend such institutions), particularly in Chile, Japan, Korea and the partner country Brazil, with more than 80% of students enrolled in such institutions in tertiary-type B (Table C1.6).

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Definitions and methodologies

Data on enrolments are for the school year 2007-08 and based on the UOE data collection on educational systems administered annually by the OECD.

Except where otherwise noted, figures are based on head counts; that is, they do not distinguish between full-time and part-time study because the concept of part-time study is not recognised by some countries. In some OECD countries, part-time education is only partially covered in the reported data.

Net enrolment rates, expressed as percentages in Table C1.1 and Table C1.2, are calculated by dividing the number of students of a particular age group enrolled in all levels of education by the size of the population of that age group. In Table C1.3 the net enrolment rate is calculated for students at a particular education level.

In Table C1.2, data on trends in enrolment rates for the years 1995, 2000, 2001, 2002, 2003 and 2004 are based on a special survey carried out in OECD countries and four out of six partner countries in January 2007.

Programmes at the secondary level can be subdivided into three categories, based on the degree to which they are oriented towards a specific class of occupations or trades and lead to a qualification that is relevant to the labour market:

- General education programmes are not designed explicitly to prepare participants for specific occupations or trades, or for entry to further vocational or technical education programmes (less than 25% of programme content is vocational or technical).
- Pre-vocational or pre-technical education programmes are mainly designed to introduce participants to the world of work and to prepare them for entry into further vocational or technical education programmes. Successful completion of such programmes does not lead to a vocational or technical qualification that is directly relevant to the labour market (at least 25% of programme content is vocational or technical).
- Vocational or technical education programmes prepare participants for direct entry into specific occupations without further training. Successful completion of such programmes leads to a vocational or technical qualification that is relevant to the labour market.

Vocational and pre-vocational programmes are further divided into two categories (school-based and combined school- and work-based programmes) on the basis of the amount of training provided in school as opposed to the workplace:

- In school-based programmes, instruction takes place (either partially or exclusively) in educational institutions. These include special training centres run by public or private authorities or enterprise-based special training centres if these qualify as educational institutions. These programmes can have an on-the-job training component involving some practical work experience at the workplace. Programmes are classified as school-based if at least 75% of the programme curriculum is presented in the school environment; this may include distance education.

- In combined school- and work-based programmes, less than 75% of the curriculum is presented in the school environment or through distance education. These programmes can be organised in conjunction with educational authorities or educational institutions and include apprenticeship programmes that involve concurrent school-based and work-based training, and programmes that involve alternating periods of attendance at educational institutions and participation in work-based training (sometimes referred to as "sandwich" programmes).

The degree to which a programme has a vocational or general orientation does not necessarily determine whether participants have access to tertiary education. In several OECD countries, vocationally oriented programmes are designed to prepare students for further study at the tertiary level, and in some countries general programmes do not always provide direct access to further education.

Data on apprenticeship programmes are based on a special survey carried out by the OECD in the autumn of 2007.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310415

- *Table C1.7. Education expectancy (2008)*
- *Table C1.8. Expected years in tertiary education (2008)*

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Table C1.1.

Enrolment rates, by age (2008)

Full-time and part-time students in public and private institutions

		Ending age of compulsory education	Number of years at which over 90% of the population are enrolled	Age range at which over 90% of the population are enrolled	Students aged: 4 and under as a percentage of the population aged 3 to 4	5 to 14 as a percentage of the population aged 5 to 14	15 to 19 as a percentage of the population aged 15 to19	20 to 29 as a percentage of the population aged 20 to 29	30 to 39 as a percentage of the population aged 30 to 39	40 and over as a percentage of the population aged 40 and over
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	15	12	5 - 16	32.2	99.3	81.6	33.0	13.4	5.8
	Austria	15	12	5 - 16	72.1	98.5	79.1	22.5	4.1	0.6
	Belgium[1]	18	15	3 - 17	125.8	99.1	92.2	29.0	8.6	3.9
	Canada[2]	16-18	m	m	m	m	80.2	25.4	5.4	1.3
	Chile	18	10	6 - 15	52.2	96.1	74.3	21.4	3.4	0.6
	Czech Republic	15	13	5 - 17	80.5	98.7	89.8	21.4	3.4	0.4
	Denmark	16	13	3 - 16	94.7	97.6	83.6	37.3	8.0	1.4
	Finland	16	13	6 - 18	48.2	95.5	87.2	42.6	15.0	3.5
	France[1]	16	15	3 - 17	110.1	100.7	85.6	19.2	2.6	x(8)
	Germany[1]	18	14	4 - 17	101.5	99.3	88.7	28.4	2.5	0.1
	Greece	14-15	11	6 - 16	26.1	98.9	82.7	28.6	m	m
	Hungary	18	14	4 - 17	82.2	99.6	89.3	25.0	5.3	0.6
	Iceland	16	14	3 - 16	95.5	98.5	84.3	35.0	12.8	3.9
	Ireland	16	14	5 - 18	34.1	101.5	89.7	18.1	4.5	0.2
	Italy[1]	16	14	3 - 16	102.0	100.3	82.2	21.3	3.3	0.1
	Japan	15	14	4 - 17	86.0	100.7	m	m	m	m
	Korea	14	11	6 - 16	30.8	95.1	88.5	28.2	2.1	0.5
	Luxembourg[3]	15	12	4 - 15	83.2	95.8	75.3	9.6	0.8	0.1
	Mexico	15	11	4 - 14	64.2	103.4	51.6	11.4	3.8	0.6
	Netherlands	18	14	4 - 17	50.6	99.6	89.6	28.8	2.8	0.7
	New Zealand	16	12	4 - 15	91.3	100.2	74.3	29.3	11.9	5.2
	Norway	16	15	3 - 17	93.8	99.5	86.9	28.8	6.5	1.6
	Poland	16	13	6 - 18	44.1	94.0	92.7	30.4	4.6	x(8)
	Portugal	14	12	5 - 16	72.3	104.1	81.1	23.1	8.8	2.5
	Slovak Republic	16	12	6 - 17	75.4	96.6	84.8	19.2	4.4	0.7
	Spain[1]	16	14	3 - 16	128.8	100.4	80.8	21.3	4.0	1.1
	Sweden	16	15	4 - 18	90.2	99.3	86.1	33.2	12.5	2.8
	Switzerland	15	12	5 - 16	27.2	100.2	84.8	22.7	3.9	0.4
	Turkey	14	7	7 - 13	7.9	91.9	45.9	12.9	1.8	0.2
	United Kingdom	16	13	4 - 16	94.5	101.5	72.6	17.0	5.6	1.6
	United States	17	11	6 - 16	46.9	98.6	80.8	23.2	5.5	1.3
	OECD average	*16*	*13*		*71.5*	*98.8*	*81.5*	*24.9*	*5.9*	*1.6*
	EU19 average	*16*	*13*		*79.8*	*99.0*	*84.9*	*25.1*	*5.6*	*1.3*
Partner countries	Brazil	17	9	7 - 15	49.7	95.6	76.4	21.1	8.6	2.6
	China	m	m	m	m	m	m	m	m	m
	Estonia	15	14	4 - 17	89.2	100.4	84.5	25.8	6.7	0.8
	India	m	m	m	m	m	m	m	m	m
	Indonesia	15	7	6 - 12	12.7	95.1	57.2	8.2	n	n
	Israel	17	12	5 - 16	83.0	95.7	64.2	20.8	5.3	0.9
	Russian Federation	17	m	m	m	93.8	77.5	19.6	m	m
	Slovenia	14	12	6 - 17	78.7	96.8	90.7	33.0	5.4	0.7

Note: Ending age of compulsory education is the age at which compulsory schooling ends. For example, an ending age of 18 indicates that all students under 18 are legally obliged to participate in education. Mismatches between the coverage of the population data and the enrolment data mean that the participation rates may be underestimated for countries such as Luxembourg that are net exporters of students and may be overestimated for those that are net importers.

1. The rates "4 and under as a percentage of the population aged 3 to 4" are overestimated. A significant number of students are younger than 3 years old. The net rates between 3 and 5 are around 100%.
2. Year of reference 2007.
3. Underestimated because a lot of resident students go to school in the neighbouring countries.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310415

Table C1.2.

Trends in enrolment rates (1995-2008)

Full-time and part-time students in public and private institutions

		15-19 year-olds as a percentage of the population aged 15 to 19								20-29 year-olds as a percentage of the population aged 20 to 29							
		1995	2000	2003	2004	2005	2006	2007	2008	1995	2000	2003	2004	2005	2006	2007	2008
OECD countries	Australia	81	82	82	82	82	83	82	82	23	28	33	33	33	33	33	33
	Austria	75	77	77	79	80	82	79	79	16	18	18	19	19	20	22	22
	Belgium	94	91	94	95	94	95	94	92	24	25	29	30	29	29	28	29
	Canada	80	81	80	79	80	81	80	m	22	23	25	25	26	26	25	m
	Chile	64	66	68	70	74	72	74	74	m	m	m	m	m	m	20	21
	Czech Republic	66	81	90	91	90	90	90	90	10	14	17	19	20	20	22	21
	Denmark	79	80	85	85	85	83	83	84	30	35	36	36	38	38	38	37
	Finland	81	85	86	87	87	88	88	87	28	38	40	41	43	43	43	43
	France[1]	89	87	87	87	86	86	86	86	19	19	20	20	20	20	20	19
	Germany	88	88	89	89	89	89	88	89	20	24	27	28	28	28	29	28
	Greece	62	82	83	86	97	93	80	83	13	16	26	28	24	32	27	29
	Hungary	64	78	83	85	87	88	89	89	10	19	22	24	24	25	25	25
	Iceland	79	79	83	84	85	85	84	84	24	31	36	37	37	37	36	35
	Ireland	79	81	84	87	89	88	90	90	14	16	19	23	21	20	21	18
	Italy	m	72	78	79	80	81	80	82	m	17	20	20	20	20	21	21
	Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	75	79	81	84	86	86	87	89	15	24	27	28	27	28	28	28
	Luxembourg	73	74	75	75	72	73	74	75	m	5	6	7	6	9	6	10
	Mexico	36	42	45	47	48	49	50	52	8	9	10	11	11	11	11	11
	Netherlands	89	87	85	86	86	89	89	90	21	22	25	26	26	27	28	29
	New Zealand	68	72	74	74	74	74	75	74	17	23	30	31	30	29	30	29
	Norway	83	86	85	86	86	86	87	87	25	28	29	29	29	30	30	29
	Poland	78	84	88	90	92	93	93	93	16	24	29	30	31	31	31	30
	Portugal	68	71	72	73	73	73	77	81	22	22	23	23	22	21	21	23
	Slovak Republic	m	m	80	83	85	85	86	85	m	m	13	15	16	17	18	19
	Spain	73	77	78	80	81	80	80	81	21	24	22	22	22	22	22	21
	Sweden	82	86	87	87	87	88	87	86	22	33	34	36	36	36	35	33
	Switzerland	80	83	83	83	83	84	84	85	15	19	21	21	22	22	23	23
	Turkey	30	28	35	40	41	45	47	46	7	5	6	10	10	11	12	13
	United Kingdom[2]	72	75	75	79	79	70	71	73	18	24	26	28	29	17	17	17
	United States	72	73	76	76	79	78	80	81	19	20	22	23	23	23	23	23
	OECD average	*74*	*77*	*79*	*80*	*81*	*81*	*81*	*82*	*18*	*22*	*24*	*25*	*25*	*25*	*25*	*25*
	OECD average for countries with 1995, 2000 and 2008 data	*73*	*77*						*81*	*18*	*22*						*26*
	EU19 average	*77*	*81*	*83*	*84*	*85*	*85*	*84*	*85*	*19*	*22*	*24*	*25*	*25*	*25*	*25*	*25*
Partner countries	Brazil[3]	m	75	80	79	80	m	75	76	m	21	22	23	21	m	21	21
	Estonia	m	m	m	m	87	87	85	84	m	m	m	m	27	27	27	26
	Israel	m	64	66	65	65	65	65	64	m	m	21	20	20	21	21	21
	Russian Federation	m	71	m	m	74	m	m	77	m	m	m	m	19	m	m	20
	Slovenia	m	m	m	m	91	91	91	91	m	m	m	m	32	33	33	33

Note: Columns showing years 2001 and 2002 are available for consultation on line (see *Statlink* below).
1. Excludes overseas departments (DOM) from 1995 to 2004.
2. Break in time series following methodological change from 2006.
3. Break in time series following methodological change from 2007.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310415

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Table C1.3.

Transition characteristics from age 15 to 20, by level of education (2008)

Net enrolment rates (based on head counts)

		Graduation age at the upper secondary level of education	Age 15	Age 16			Age 17			Age 18			Age 19			Age 20		
			Secondary education	Secondary education	Post-secondary non-tertiary	Tertiary education	Secondary education	Post-secondary non-tertiary	Tertiary education	Secondary education	Post-secondary non-tertiary	Tertiary education	Secondary education	Post-secondary non-tertiary	Tertiary education	Secondary education	Post-secondary non-tertiary	Tertiary education
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD countries	Australia	17	99	93	n	n	78	1	5	38	2	27	24	3	38	20	2	39
	Austria	17-18	94	91	n	n	77	12	n	45	22	5	19	14	15	8	6	23
	Belgium	18	101	101	n	n	99	n	1	47	6	36	23	7	46	13	4	49
	Canada[1]	17-18	93	92	m	1	80	m	8	31	m	35	10	m	48	4	m	39
	Chile	18	93	90	a	n	87	a	n	33	a	22	11	a	35	3	a	36
	Czech Republic	18-19	100	100	n	n	97	n	n	83	4	1	37	7	22	7	4	38
	Denmark	18-19	98	92	n	n	85	n	n	80	n	n	55	n	5	31	n	16
	Finland	19	99	95	n	n	95	n	n	93	n	1	32	n	20	17	n	33
	France	17-20	98	95	n	n	88	n	2	48	1	29	24	1	40	9	1	41
	Germany	19-20	97	96	n	n	92	n	1	84	n	3	41	20	10	21	16	19
	Greece	18	95	92	a	a	77	1	9	19	5	46	10	8	53	6	7	56
	Hungary	19	99	97	1	n	91	1	n	63	8	13	24	17	33	12	12	38
	Iceland	19	99	93	n	n	83	n	n	77	n	n	68	n	2	35	n	15
	Ireland	18-19	102	98	n	n	81	5	5	33	23	34	4	17	46	1	14	43
	Italy	19	98	93	a	a	87	a	a	74	a	3	20	1	34	6	1	37
	Japan	18	99	95	a	a	93	a	m	3	m	m	1	m	m	m	m	m
	Korea	17	101	97	a	n	88	a	1	8	a	67	2	a	77	n	a	72
	Luxembourg	18-19	90	88	n	n	79	n	n	70	n	1	42	n	5	25	1	8
	Mexico	18	66	58	a	a	46	a	3	18	a	14	30	a	20	3	a	20
	Netherlands	17-20	99	98	n	n	87	n	6	61	n	22	42	n	31	28	n	37
	New Zealand	17-18	96	86	2	1	69	3	4	23	6	28	11	6	36	8	5	39
	Norway	18-20	101	95	n	n	92	n	n	87	n	n	41	1	15	20	2	28
	Poland	19-20	98	98	n	a	96	n	n	90	n	1	36	6	39	11	11	47
	Portugal	17-18	99	94	a	a	83	n	1	46	n	21	25	n	30	14	1	32
	Slovak Republic	19-20	98	94	n	n	90	n	n	78	n	3	35	n	25	7	n	36
	Spain	17	101	93	a	n	82	a	n	40	a	29	22	a	36	12	a	37
	Sweden	19	98	99	n	n	98	n	1	92	n	2	20	1	15	11	1	22
	Switzerland	18-20	97	91	n	n	87	1	n	79	1	2	48	2	9	21	2	18
	Turkey	16	64	56	a	1	33	a	6	20	a	18	m	a	27	m	a	28
	United Kingdom	16	101	91	n	1	74	n	2	26	n	25	11	n	34	6	n	34
	United States	18	101	95	m	n	84	m	3	23	m	42	5	m	52	n	m	49
	OECD average		*96*	*92*	*n*	*n*	*83*	*1*	*2*	*52*	*3*	*18*	*26*	*4*	*30*	*12*	*3*	*34*
	EU19 average		*98*	*95*	*n*	*n*	*87*	*1*	*1*	*62*	*4*	*14*	*28*	*5*	*28*	*13*	*4*	*34*
Partner countries	Brazil	18	89	85	a	n	83	a	2	55	a	9	32	a	14	20	a	16
	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	19	98	96	n	n	92	n	n	71	1	8	19	6	37	7	6	39
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	18	77	63	a	n	69	a	n	38	a	5	12	a	21	3	a	18
	Israel	17	94	94	n	n	88	n	n	17	n	9	2	n	13	1	1	13
	Russian Federation	17	86	75	x(2)	16	36	x(5)	53	13	x(8)	54	5	x(11)	49	2	x(14)	41
	Slovenia	18-19	96	97	n	n	97	n	n	83	n	5	26	3	48	24	4	54

Note: Mismatches between the coverage of the population data and the enrolment data mean that the participation rates may be underestimated for countries such as Luxembourg that are net exporters of students and may be overestimated for those that are net importers.

1. Year of reference 2007.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310415

Table C1.4.

Upper secondary enrolment patterns (2008)

Enrolment in upper secondary programmes in public and private institutions, by programme destination and programme orientation

		Upper secondary education						
		Distribution of enrolment by programme destination			Distribution of enrolment by programme orientation			
		ISCED 3A	ISCED 3B	ISCED 3C	General	Pre-vocational	Vocational	Combined school and work-based
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	Australia	38.9	a	61.1	38.9	a	61.1	m
	Austria	45.0	46.6	8.4	22.9	6.3	70.8	35.0
	Belgium	44.1	a	55.9	27.1	a	72.9	3.2
	Canada[1]	94.7	a	5.3	94.7	x(6)	5.3	a
	Chile	100.0	a	a	65.4	a	34.6	a
	Czech Republic	73.9	0.5	25.6	25.8	n	74.2	33.1
	Denmark	52.0	a	48.0	52.0	a	48.0	47.5
	Finland	100.0	a	a	32.1	a	67.9	13.4
	France	55.8	11.9	32.3	55.8	a	44.2	12.4
	Germany	42.5	57.2	0.3	42.5	a	57.5	42.8
	Greece	69.1	a	30.9	69.1	a	30.9	a
	Hungary	76.3	a	23.7	75.6	10.5	13.9	13.9
	Iceland	51.0	0.6	48.4	65.9	1.6	32.5	15.5
	Ireland	70.6	a	29.4	66.1	31.8	2.1	2.1
	Italy	81.5	1.3	17.2	40.6	32.7	26.7	a
	Japan	76.0	0.9	23.1	76.0	0.9	23.1	a
	Korea	74.5	a	25.5	74.5	a	25.5	a
	Luxembourg	60.9	15.1	23.9	37.9	a	62.1	14.3
	Mexico	90.6	a	9.4	90.6	a	9.4	a
	Netherlands	63.0	a	37.0	32.9	a	67.1	20.2
	New Zealand	m	m	m	m	m	m	m
	Norway	44.8	a	55.2	44.8	a	55.2	15.9
	Poland	87.1	a	12.9	53.8	a	46.2	5.5
	Portugal	100.0	x(1)	x(1)	69.3	8.5	22.2	m
	Slovak Republic	84.0	a	16.0	27.7	a	72.3	28.6
	Spain	56.2	n	43.8	56.2	n	43.8	1.8
	Sweden	93.5	n	6.5	43.2	1.0	55.7	n
	Switzerland	30.2	66.4	3.3	35.2	n	64.8	n
	Turkey[2]	100.0	a	m	61.0	a	39.0	n
	United Kingdom[3]	82.9	x(1)	17.1	68.6	x(4)	31.4	m
	United States	100.0	x(1)	x(1)	100.0	x(4)	x(4)	x(4)
	OECD average	***71.3***	***7.4***	***24.5***	***54.9***	***3.5***	***43.5***	***11.7***
	EU19 average	***70.5***	***7.8***	***23.8***	***47.3***	***5.0***	***47.9***	***16.1***
Partner countries	Brazil	89.4	10.6	a	89.4	a	10.6	a
	China	53.3	x(1)	49.9	52.5	50.7	x(5)	a
	Estonia	68.0	31.3	0.7	68.0	a	32.0	0.4
	India[1]	98.2	a	1.8	98.2	a	1.8	m
	Indonesia	64.0	38.0	a	64.0	a	38.0	m
	Israel	96.2	a	3.8	65.5	a	34.5	3.8
	Russian Federation	53.0	16.2	30.8	53.0	16.2	30.8	m
	Slovenia	35.5	45.9	18.6	35.5	a	64.5	n

1. Year of reference 2007.
2. Excludes ISCED 3C.
3. Includes post-secondary non-tertiary education.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310415

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Table C1.5.

Students in primary and secondary education, by type of institution or mode of enrolment (2008)

Distribution of students, by mode of enrolment and type of institution

		Type of institution									Mode of enrolment	
		Primary			Lower secondary			Upper secondary			Primary and secondary	
		Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Full-time	Part-time
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	69.7	30.3	a	66.2	33.8	m	76.9	22.9	0.2	78.9	21.1
	Austria	94.6	5.4	x(2)	91.5	8.5	x(5)	89.4	10.6	x(8)	100.0	m
	Belgium	45.9	54.1	a	39.9	60.1	a	43.4	56.6	a	79.3	20.7
	Canada[1]	94.2	x(1)	x(1)	94.2	x(4)	x(4)	94.2	x(7)	x(7)	100.0	m
	Chile	43.5	50.2	6.3	48.5	45.3	6.2	42.0	51.0	6.9	100.0	a
	Czech Republic	98.7	1.3	a	97.6	2.4	a	86.1	13.9	a	100.0	n
	Denmark	86.7	13.0	0.2	74.5	24.8	0.7	98.1	1.8	0.1	97.3	2.7
	Finland	98.6	1.4	a	95.7	4.3	a	86.1	13.9	a	100.0	a
	France	85.0	14.4	0.5	78.2	21.5	0.3	68.7	30.3	1.0	100.0	x(10)
	Germany	96.4	3.6	x(2)	91.5	8.5	x(5)	91.1	8.9	x(8)	99.7	0.3
	Greece	92.9	a	7.1	94.4	a	5.6	95.0	a	5.0	98.0	2.0
	Hungary	92.1	7.9	n	91.3	8.7	n	80.7	19.3	n	95.2	4.8
	Iceland	98.2	1.8	n	99.1	0.9	n	87.8	11.8	0.5	90.0	10.0
	Ireland	99.4	a	0.6	100.0	a	n	98.4	a	1.6	99.9	0.1
	Italy	93.2	a	6.8	96.0	a	4.0	94.0	1.1	5.0	99.1	0.9
	Japan	99.0	a	1.0	92.9	a	7.1	69.2	a	30.8	98.7	1.3
	Korea	98.7	a	1.3	81.5	18.5	a	53.5	46.5	a	100.0	a
	Luxembourg	92.2	0.5	7.3	80.4	11.2	8.4	84.2	7.3	8.5	99.9	0.1
	Mexico	91.8	a	8.2	86.4	a	13.6	80.8	a	19.2	100.0	a
	Netherlands	100.0	a	m	100.0	a	m	100.0	a	m	99.1	0.9
	New Zealand	87.6	10.2	2.2	83.0	12.0	5.1	76.2	17.1	6.7	90.9	9.1
	Norway	97.8	2.2	x(2)	96.9	3.1	x(5)	90.6	9.4	x(8)	98.9	1.1
	Poland	97.7	0.6	1.7	96.6	1.0	2.4	88.8	1.2	10.0	95.4	4.6
	Portugal	88.8	2.5	8.7	82.4	4.7	12.8	77.5	4.5	18.0	100.0	a
	Slovak Republic	94.5	5.5	n	93.7	6.3	n	87.2	12.8	n	98.9	1.1
	Spain	68.6	27.9	3.5	67.9	29.0	3.1	77.8	12.1	10.1	91.9	8.1
	Sweden	92.7	7.3	n	90.5	9.5	n	87.2	12.8	n	91.6	8.4
	Switzerland	95.8	1.3	2.9	92.3	2.7	4.9	93.2	2.8	4.1	99.8	0.2
	Turkey	97.9	a	2.1	a	a	a	97.1	a	2.9	100.0	m
	United Kingdom	95.0	0.1	4.9	84.0	11.4	4.6	56.2	39.1	4.7	97.6	2.4
	United States	90.3	a	9.7	91.1	a	8.9	91.4	a	8.6	100.0	a
	OECD average	*89.6*	*8.1*	*2.9*	*83.2*	*10.9*	*3.5*	*82.0*	*13.6*	*5.5*	*96.8*	*3.7*
	EU19 average	*90.2*	*7.7*	*2.6*	*86.6*	*11.1*	*2.6*	*83.7*	*13.0*	*4.0*	*97.0*	*3.4*
Partner countries	Brazil	88.4	a	11.6	90.3	a	9.7	86.0	a	14.0	100.0	m
	China	93.8	6.2	x(2)	92.9	7.1	x(5)	85.9	14.1	x(7)	97.8	2.2
	Estonia	97.0	a	3.0	97.8	a	2.2	97.0	a	3.0	96.1	3.9
	India	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	83.9	a	16.1	62.8	a	37.2	48.6	a	51.4	100.0	a
	Israel	100.0	x(1)	n	100.0	x(1)	n	100.0	x(1)	n	100.0	a
	Russian Federation	99.4	a	0.6	99.6	a	0.4	98.9	a	1.1	99.9	0.1
	Slovenia	99.8	0.2	n	99.9	0.1	n	96.2	3.3	0.5	94.3	5.7

1. Year of reference 2007.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table C1.6.

Students in tertiary education, by type of institution or mode of enrolment (2008)

Distribution of students, by mode of enrolment, type of institution and programme destination

		Type of institution						Mode of enrolment			
		Tertiary-type B education			Tertiary-type A and advanced research programmes			Tertiary-type B education		Tertiary-type A and advanced research programmes	
		Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Full-time	Part-time	Full-time	Part-time
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	86.2	2.0	11.7	96.6	a	3.4	47.8	52.2	69.5	30.5
	Austria	65.1	34.9	x(2)	85.4	14.6	n	m	m	m	m
	Belgium	44.4	55.6	a	41.9	57.4	a	64.4	35.6	86.7	12.6
	Canada[1]	m	m	m	m	m	m	82.3	17.7	82.3	17.7
	Chile	6.3	2.6	91.1	32.2	22.5	45.3	100.0	a	100.0	a
	Czech Republic	65.9	31.7	2.4	88.4	a	11.6	91.7	8.3	96.8	3.2
	Denmark	98.5	0.9	0.6	98.1	1.8	n	65.5	34.5	91.9	8.1
	Finland	100.0	n	a	89.3	10.7	a	100.0	a	54.9	45.1
	France	70.3	8.6	21.0	85.7	0.8	13.4	m	m	m	m
	Germany[2]	62.2	x(1)	x(1)	95.0	m	m	84.6	15.4	95.5	4.5
	Greece	100.0	a	a	100.0	a	a	100.0	a	100.0	a
	Hungary	54.7	45.3	a	86.4	13.6	a	73.4	26.6	60.4	39.6
	Iceland	36.8	63.2	n	80.0	20.0	n	33.1	66.9	75.8	24.2
	Ireland	96.9	a	3.1	94.7	a	5.3	66.6	33.4	87.3	12.7
	Italy	88.2	a	11.8	93.1	a	6.9	100.0	a	100.0	a
	Japan	7.3	a	92.7	24.6	a	75.4	96.8	3.2	90.3	9.7
	Korea	3.5	a	96.5	24.8	a	75.2	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m	m	m
	Mexico	95.4	a	4.6	65.7	a	34.3	100.0	a	100.0	a
	Netherlands	n	a	n	100.0	a	m	n	n	85.1	14.9
	New Zealand	63.0	29.2	7.7	97.2	2.3	0.5	38.5	61.5	60.2	39.8
	Norway	45.0	55.0	x(2)	86.4	13.6	x(5)	60.4	39.6	71.0	29.0
	Poland	75.4	a	24.6	66.7	a	33.3	72.5	27.5	53.5	46.5
	Portugal	91.9	a	8.1	75.4	a	24.6	m	m	m	m
	Slovak Republic	81.7	18.3	n	89.4	n	10.6	81.3	18.7	60.7	39.3
	Spain	79.3	15.1	5.6	86.9	n	13.1	96.7	3.3	87.8	12.2
	Sweden	59.7	40.3	a	93.3	6.7	a	92.0	8.0	47.9	52.1
	Switzerland	36.7	35.2	28.1	94.7	3.7	1.6	24.5	75.5	90.0	10.0
	Turkey	96.8	a	3.2	93.5	a	6.5	100.0	n	100.0	n
	United Kingdom	a	100.0	n	a	100.0	n	24.8	75.2	75.1	24.9
	United States	81.1	a	18.9	71.7	a	28.3	45.4	54.6	66.9	33.1
	OECD average	***61.8***	***19.2***	***16.6***	***77.1***	***9.6***	***15.0***	***70.9***	***25.3***	***80.4***	***19.6***
	EU19 average	***68.6***	***20.6***	***4.8***	***81.7***	***12.1***	***7.4***	***74.2***	***19.1***	***78.9***	***21.1***
Partner countries	Brazil	16.9	a	83.1	29.3	a	70.7	m	m	m	m
	China	m	m	m	m	m	m	72.4	27.6	77.5	22.5
	Estonia	46.8	15.9	37.3	0.1	86.2	13.7	90.7	9.3	87.4	12.6
	India[1]	n	n	n	m	m	m	n	n	100.0	n
	Indonesia	40.0	a	60.0	30.1	a	69.9	100.0	a	100.0	a
	Israel	35.2	64.8	a	9.3	78.7	12.0	100.0	a	81.6	18.4
	Russian Federation[2]	95.0	a	5.0	83.5	a	16.5	71.8	28.2	51.5	46.5
	Slovenia	80.1	5.1	14.8	93.4	4.2	2.3	50.0	50.0	75.8	24.2

1. Year of reference 2007.
2. Excludes advanced research programmes.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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INDICATOR C2

WHO STUDIES ABROAD AND WHERE?

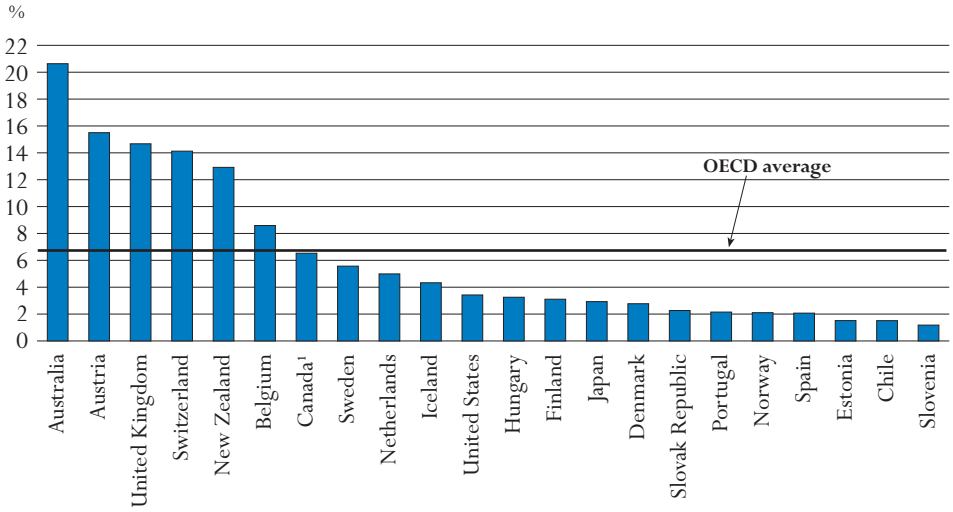
The proportion of international students in tertiary enrolments provides a good indication of the magnitude of student mobility in OECD and partner countries. This indicator shows global trends and highlights the main destinations of international students and trends in market shares of the international student pool. It discusses some of the factors underlying students' choices of a country in which to study, and presents the distribution of international students by country and region of origin, type of programme, and field of study. The distribution of students enrolled outside of their country of citizenship by destination is also examined, along with the immigration implications for host countries.

Key results

Chart C2.1. Student mobility in tertiary education (2008)

This chart shows the percentage of international students in tertiary enrolments.

Student mobility – *i.e.* international students who travelled to a country different from their own for the purpose of tertiary study – ranges from below 1% to more than 20% of tertiary enrolments. International students are most numerous in tertiary enrolments in Australia, Austria, New Zealand, Switzerland and the United Kingdom.



Note: The data presented in this chart are not comparable with data on foreign students in tertiary education presented in pre-2006 editions of *Education at a Glance* or elsewhere in this chapter.
1. Year of reference 2007.
Countries are ranked in descending order of the percentage of international students in tertiary education.
Source: OECD. Table C2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
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Other highlights of this indicator

- In 2008, over 3.3 million tertiary students were enrolled outside their country of citizenship. This represented a 10.7% increase from the previous year in total foreign student intake reported to the OECD and the UNESCO Institute for Statistics.
- Australia, France, Germany, the United Kingdom and the United States receive more than 50% of all foreign students worldwide. The largest numbers of international students from OECD countries are from France, Germany, Japan, Korea, Turkey and the United States. However, in absolute terms the largest numbers of international students are from China and India.
- International students make up 10% or more of the enrolments in tertiary education in Australia, Austria, New Zealand, Switzerland and the United Kingdom. They account for more than 20% of enrolments in advanced research programmes in Australia, Austria, Belgium, Canada, New Zealand, Switzerland, the United Kingdom and the United States.
- In Canada, Denmark, Finland, Germany, Sweden, Switzerland, the United States and the partner country Slovenia, 30% or more of international students are enrolled in sciences, agriculture or engineering.

Policy context

The general trend towards freely circulating capital, goods and services, coupled with changes in the openness of labour markets, has translated into growing demand for international sharing of education and training. As world economies become increasingly interconnected, the international skills needed to operate on a global scale have become increasingly important. Globally oriented firms seek internationally-competent workers who speak foreign languages and have the intercultural skills needed to successfully interact with international partners. Governments as well as individuals are looking to higher education to broaden students' horizons and help them to better understand the world's languages, cultures and business methods. One way for students to expand their knowledge of other societies and languages, and hence leverage their labour market prospects, is to study in tertiary education institutions in countries other than their own. Several OECD governments have set up schemes and policies to promote mobility as a means of fostering intercultural contacts and building social networks for the future. This intention is especially clear in countries of the European Union that participate in the Bologna process aiming to reach a benchmark of 20% of all graduating students with a study or training period abroad by 2020 (see Indicator A3).

From a macroeconomic perspective, international negotiations on the liberalisation of trade in services highlight the trade implications of the internationalisation of education services. Some OECD countries already show signs of specialisation in the offer of education programmes. The long-term trend towards a greater internationalisation of education (Box C2.1) is likely to have a growing impact on countries' balance of payments in services as a result of revenue from tuition fees and domestic consumption by international students. Along with student mobility, the cross-border electronic delivery of flexible educational programmes as well as campuses abroad are also relevant to the trade dimension of international tertiary education, although comparable data do not yet exist.

The economic impact of the internationalisation of tertiary education goes beyond the short-term monetary costs and benefits that are reflected in current account balance of services. It can provide an opportunity for smaller and/or less-developed education systems to improve the cost efficiency of their education provision. In fact, training opportunities abroad may constitute a cost-efficient alternative to national provision and allow countries to focus limited resources on educational programmes with potential economies of scale or to expand participation in tertiary education in spite of bottlenecks in provision.

In addition, the rapid expansion of tertiary education in OECD countries – and more recently in most emerging countries – has intensified the financial pressures on education systems and led to greater interest in recruiting foreign students as tertiary institutions increasingly rely on revenues from foreign tuition fees which are often higher than for national students (see Indicator B5). In other cases, countries encourage education abroad as a way to address unmet demand resulting from bottlenecks caused by the uneven expansion of the education system. In the past years, the rise in the knowledge economy and the global competition for skills and competencies have provided a new driver for the internationalisation of education systems in many OECD countries. The enrolment of foreign students can be part of a broader strategy to recruit highly skilled immigrants or to redistribute the labour force within a common labour market, such as that of the European Union.

At the institutional level, the additional revenue which foreign students may generate – through differentiated tuition fees or public subsidies – helps to promote international education. Tertiary education institutions also have academic incentives to engage in international activities to build or maintain their reputation in an increasingly global academic competition.

From the perspective of educational institutions, international enrolments can also constrain instructional settings and processes, insofar as their programmes curricula and teaching methods have to be adapted to a culturally and linguistically diverse student body and to increase the international comparability of programmes. Such constraints are, however, outweighed by numerous benefits to host institutions. To attract international students, institutions offer programmes that stand out among competitors and this may lead to a more flexible, highly reactive, demand-driven quality tertiary education that responds to changing needs. International enrolments can also help institutions to reach the critical mass needed to diversify their educational programmes and to increase their financial resources when foreign students bear the full cost of their education (Box C2.3). Given these advantages, institutions may favour the enrolment of international students and thereby restrict access to domestic students. However, there is little evidence of this, except in some prestigious programmes of elite institutions that are in high demand (OECD, 2004).

For individuals, the returns from studying abroad depend largely on the policies of sending countries regarding financial aid to students going abroad and the tuition fee policies of countries of destination (Box C2.3) and the financial support they offer international students. The cost of living and exchange rates also affect the cost of international education. In addition, the long-term returns from international education depend greatly on how international degrees are recognised and valued by local labour markets.

In the current economic crisis, decisions about studying abroad are likely to face a trade-off between opportunity costs considerations and the possibility to finance education. In countries with more stable currencies the first argument may prevail whereas individuals in countries with depreciated currencies or from a population affected by the crisis may choose less expensive countries and public rather than private institutions (OECD, 2008). At the institutional level, if the crisis has led to a shortage of public and private funds, competition for tuition fees from international students may increase.

The number of students enrolled in countries other than their own can provide an indication of the ongoing internationalisation of tertiary education. With this in mind, it will be important to develop ways to quantify and measure other aspects of cross-border education in the future.

Evidence and explanations

Concepts and terminology used in this indicator

The concepts and terminology used in this indicator have changed from those used in editions of *Education at a Glance* before 2006. Previously, this indicator focused on foreign students in tertiary education, defined as non-citizens of the country in which they study. This concept was inappropriate for measuring student mobility because not all foreign students come for the sole purpose of studying. In particular, the definition of foreign students includes permanent residents in the country of study as a result of immigration – their own or that of their parents. This

results in an overestimation of the number of foreign students in countries with comparatively low rates of naturalisation of their immigrant populations. Therefore, in an effort to improve the measurement of student mobility and the comparability of data on internationalisation, the OECD – together with Eurostat and the UNESCO Institute for Statistics – revised in 2005 the instruments used to gather data on student mobility. According to this revision the term "international students" refers to students who have crossed borders specifically with the intention to study.

However, the measurement of student mobility depends to a large extent on countries' immigration legislation, mobility arrangements and available data. For instance, the free mobility of individuals within the EU and the broader European Economic Area (EEA) makes it impossible to derive numbers of international students from visa statistics.

The OECD therefore allows countries to define as international students those who are not permanent residents of their country of study or, alternatively, those who received their prior education in another country (regardless of citizenship), depending on which operational definition is most appropriate in their national context. Overall, the country of prior education is considered a better operational criterion for EU countries so as not to omit intra-EU student mobility (Kelo *et al.*, 2005), while the residence criterion is usually a good proxy in countries that require a student visa to enter the country for education purposes.

The convention adopted here is to use the term "international student" when referring to student mobility and the term "foreign student" for non-citizens enrolled in a country (*i.e.* including some permanent residents and therefore an overestimate of actual student mobility). However since not all countries are yet able to report data on international student mobility, some tables and charts present indicators on both international and foreign students, albeit separately, to emphasise the need for caution in interpreting the results.

In this indicator, data on total foreign enrolments worldwide are based on the number of foreign students enrolled in countries reporting data to the OECD and to the UNESCO Institute for Statistics and may be underestimated. In addition, all trend analyses in this indicator are based on numbers of foreign students at different points in time, as time series on student mobility are not yet available.

Trends in foreign student numbers

In 2008, 3.3 million tertiary students were enrolled outside their country of citizenship, of whom 2.7 million (79.1%) studied in the OECD area. This represented a 10.7% increase of 322 000 individuals in total foreign enrolments worldwide since the previous year. In the OECD area the increase was smaller at 4.9%. Since 2000, the number of foreign tertiary students enrolled worldwide increased by 85%, for an average annual increase of 11 percentage points, and by 67% in the OECD area, for an average annual increase of 8 percentage points. Since 2005 the rate of growth in non-OECD destinations is higher than in OECD member countries, this reflects the increasing preference to study in emerging countries (Table C2.6).

Compared to 2000, the number of foreign students enrolled in tertiary education more than doubled in Australia, Chile, the Czech Republic, Finland, Greece, Iceland, Italy, Korea, the Netherlands, New Zealand, Poland, the Slovak Republic, Spain and the partner countries Estonia,

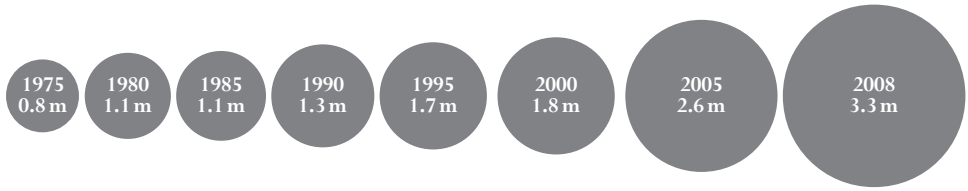
the Russian Federation and Slovenia. In contrast, the number of foreign students enrolled in Belgium and Turkey grew by less than 25% (Table C2.1). Changes in foreign student numbers between 2000 and 2008 indicate that, on average, the number of foreign students has grown faster in the OECD area than in the EU19 countries, by 163% and 120%, respectively (Table C2.1).

The combination of OECD and UNESCO Institute for Statistics data makes it possible to examine longer-term trends and illustrates the dramatic growth in foreign enrolments (Box C2.1). Over the past three decades, the number of students enrolled outside their country of citizenship has risen dramatically, from 0.8 million worldwide in 1975 to 3.3 million in 2008, a more than fourfold increase. Growth in the internationalisation of tertiary education has accelerated during the past 13 years, mirroring the globalisation of economies and societies.

The rise in the number of students enrolled abroad since 1975 stems from various factors. During the early years, public policies to promote and nurture academic, cultural, social and political ties between countries played a key role, especially in the context of the European construction: building mutual understanding among young Europeans was a major policy objective. North American policies of academic co-operation had similar rationales. Over time, however, economic factors played an increasing role. Decreasing transport costs, the spread of new technologies, and faster, cheaper communications made economies and societies increasingly interdependent during the 1980s and 1990s. The trend was particularly marked in the high-technology sector and in the labour market, as the internationalisation of labour markets for the highly skilled gave individuals an incentive to gain international experience as part of their studies. The spread of information and communication technologies (ICT) lowered the information and transaction costs of study abroad and boosted demand for international education.

Box C2.1. Long-term growth in the number of students enrolled outside their country of citizenship

Growth in internationalisation of tertiary education (1975-2008, in millions)



Source: OECD and UNESCO Institute for Statistics.

Data on foreign enrolment worldwide come from both the OECD and the UNESCO Institute for Statistics (UIS). UIS provided the data on all countries for 1975-95 and most of the partner countries for 2000, 2005 and 2008. The OECD provided the data on OECD countries and the other partner economies in 2000, 2005 and 2008. Both sources use similar definitions, thus making their combination possible. Missing data were imputed with the closest data reports to ensure that breaks in data coverage do not result in breaks in time series.

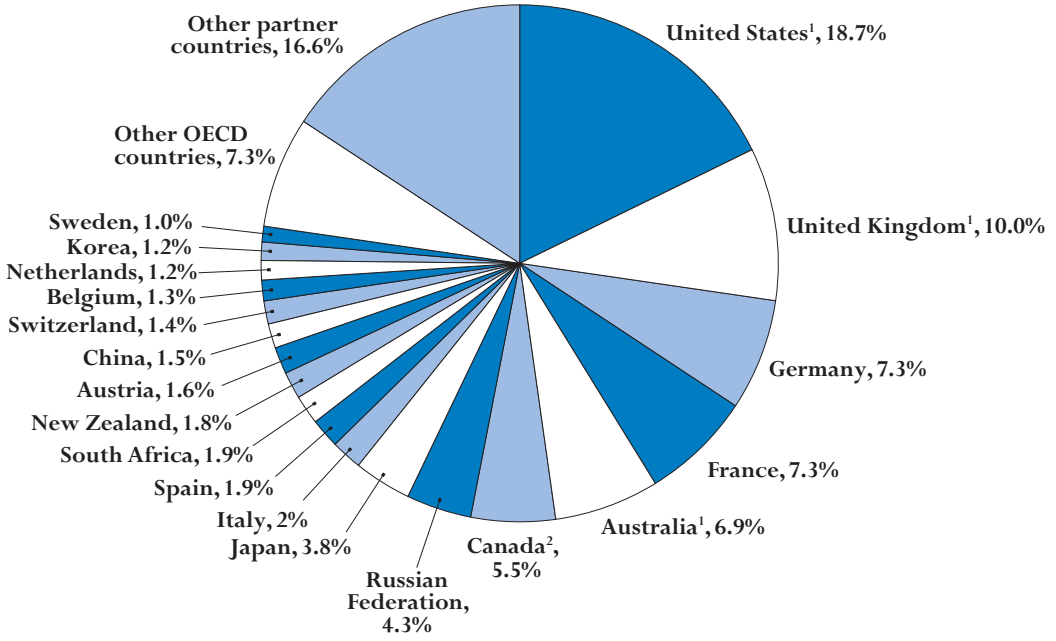
C2

Major destinations of foreign students

In 2008, one out of two foreign students went to the five countries that host the majority of foreign students enrolled outside of their country of citizenship. The United States received the most (in absolute terms) with almost 19% of all foreign students worldwide, followed by the United Kingdom (10%), Germany (7%), France (7%) and Australia (7%). Although these destinations account for the bulk of all tertiary students pursuing their studies abroad (50%), some new players on the international education market have emerged within and beyond the OECD area in the past few years (Chart C2.2 and Table C2.7 available on line). Besides the five major destinations, significant numbers of foreign students were enrolled in Canada (6%), Italy (2%), Japan (4%) and the partner country the Russian Federation (4%) in 2008. Note that the figures for Australia, the United Kingdom and the United States refer to international students.

Chart C2.2. Distribution of foreign students in tertiary education, by country of destination (2008)

Percentage of foreign tertiary students reported to the OECD who are enrolled in each country of destination



1. Data relate to international students defined on the basis of their country of residence.
2. Year of reference 2007.

Source: OECD and UNESCO Institute for Statistics for most data on partner countries. Table C2.7, available on line. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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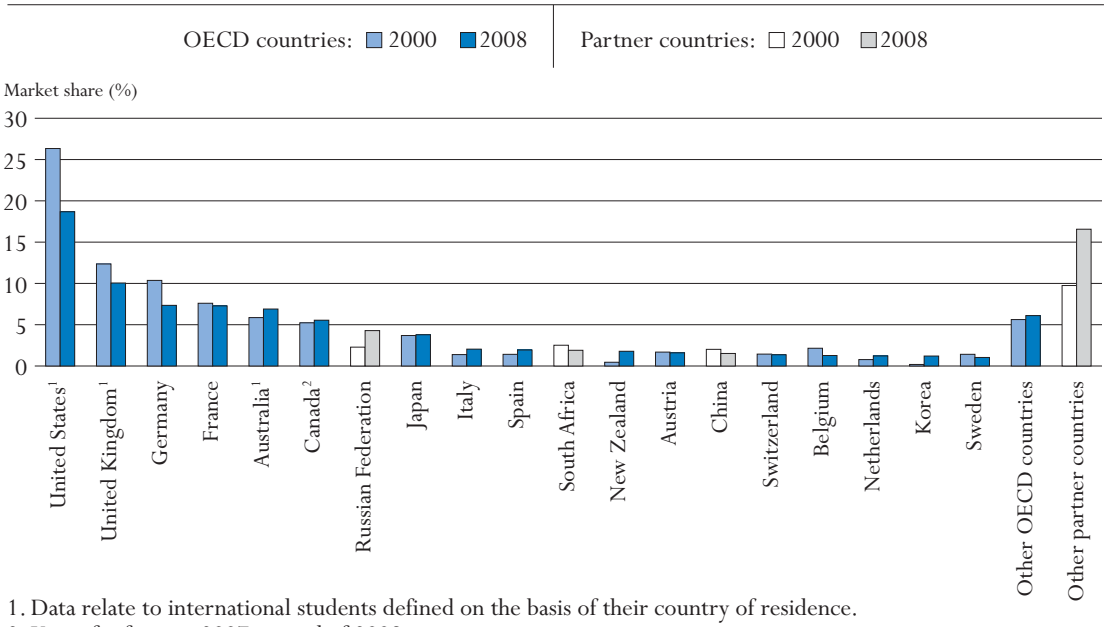
The emergence of new players on the international education market

The examination of country-specific trends in the shares of the international education market – measured as a percentage of all foreign students worldwide enrolled at a given destination – sheds light on the dynamics of the internationalisation of tertiary education. Over an eight-year period, the share of the United States as a preferred destination dropped from 26% to 19%.

The decline was around three percentage points for Germany, two percentage points for the United Kingdom and one percentage point for Belgium. For France, South Africa and Sweden, as well as for China, it was about one-half of a percentage point. In contrast, the shares of Australia, Korea and New Zealand expanded by around one percentage point. The impressive growth in the partner country the Russian Federation (two percentage points) makes it an important new player on the international education market (Chart C2.3). These changes reflect the different emphases of countries' internationalisation policies, which range from proactive marketing policies in the Asia-Pacific region to a more local and university-driven approach in the traditionally dominant United States. Note that the figures for Australia, the United Kingdom and the United States refer to international students.

Chart C2.3. Trends in international education market shares (2000, 2008)

Percentage of all foreign tertiary students enrolled, by destination



1. Data relate to international students defined on the basis of their country of residence.
2. Year of reference 2007 instead of 2008.

Countries are ranked in descending order of 2008 market shares.

Source: OECD and UNESCO Institute for Statistics for most data on partner countries. Table C2.7, available on line. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Underlying factors in students' choice of a country of study

Language of instruction: a critical factor

The language spoken and used in instruction is an essential element in the choice of a foreign country in which to study. Countries whose language of instruction is widely spoken and read (*e.g.* English, French, German and Russian) are therefore leading destinations of foreign students, both in absolute and relative terms. Japan is a notable exception: despite having a less widespread language of instruction, it enrols large numbers of foreign students, of whom 93.3% are from Asia (Table C2.2 and Chart C2.2).

The dominance (in absolute numbers) of English-speaking destinations (Australia, Canada, New Zealand, the United Kingdom and the United States) reflects the progressive adoption of English as a global language. It may also be because students intending to study abroad are likely to have learned English in their home country and/or wish to improve their English language skills through immersion in a native English-speaking context. The rapid increase in foreign enrolments in Australia (index change of 218), Canada (196) and, most importantly, New Zealand (726) between 2000 and 2008 can be partly attributed to linguistic considerations (Table C2.1).

Given this pattern, an increasing number of institutions in non-English-speaking countries now offer courses in English to overcome their linguistic disadvantage in terms of attracting foreign students. This trend is especially noticeable in countries in which the use of English is widespread, such as the Nordic countries (Box C2.2).

Box C2.2. OECD and partner countries offering tertiary programmes in English (2008)

Use of English in instruction	OECD and partner countries
All or nearly all programmes offered in English	Australia, Canada,[1] Ireland, New Zealand, the United Kingdom, the United States
Many programmes offered in English	Denmark, Finland, the Netherlands, Sweden
Some programmes offered in English	Belgium (Fl.),[2] the Czech Republic, France, Germany, Hungary, Iceland, Japan, Korea, Norway, Poland, Portugal, the Slovak Republic, Switzerland,[3] Turkey
No or nearly no programmes offered in English	Austria, Belgium (Fr.), Brazil, Chile, Greece, Israel, Italy, Luxembourg, Mexico,[3] Portugal, the Russian Federation, Spain

Note: The extent to which a country offers a few or many programmes in English takes into account the size of the country. Hence France and Germany are classified among countries with comparatively few English programmes, although they have more English programmes than Sweden in absolute terms.

1. In Canada, tertiary institutions are either French- (mostly Quebec) or English-speaking.
2. Masters programmes.
3. At the discretion of tertiary education institutions.

Source: OECD, compiled from brochures for prospective international students by OAD (Austria), CHES and NARIC (Czech Republic), Cirius (Denmark), CIMO (Finland), EduFrance (France), DAAD (Germany), Campus Hungary (Hungary), University of Iceland (Iceland), JPSS (Japan), NIIED (Korea), NUFFIC (Netherlands), SIU (Norway), CRASP (Poland), Swedish Institute (Sweden) and Middle-East Technical University (Turkey).

Impact of tuition fees and cost of living on foreign students' destinations

Tuition fees and cost of living are also important factors in prospective international students' choice of country. Among most EU countries (*e.g.* Austria, Belgium [Flemish Community], the Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, the Slovak Republic, Spain, Sweden, the United Kingdom and the partner country Estonia), international students from other EU countries are treated as domestic students in terms of tuition fees. In Ireland, this is on condition that the EU student has lived in Ireland for three out of the previous five years. If this condition is satisfied, the EU student is eligible for free tuition in a particular academic year. In Finland, Germany and Italy, this applies to non-EU international students as well. While there are no tuition fees in Finland and Sweden, in Germany, tuition fees are collected at all government-dependent private institutions and, in some *Bundesländer*, tuition fees have been introduced at public tertiary institutions as well. In Denmark, students from Nordic partner countries (Norway and

Iceland) and EU countries are treated like domestic students and thus pay no fees (fully subsidised). Most international students from non-EU or non-EEA countries, however, have to pay the full tuition fee, although a limited number of talented students from non-EU/EEA countries can get scholarships covering all or part of their tuition fees (Box C2.3).

Among some non-EU countries (Iceland, Japan, Korea, Norway, the United States and the partner country the Russian Federation), the same treatment applies to all domestic and international students. In Norway, tuition fees are equal for domestic and international students: no fees in public institutions, but fees in some private institutions. In Iceland, all students have to pay registration fees, and students in private schools also have to pay tuition fees. In Japan, all students (domestic and international) are generally charged the full tuition fee, but international students with Japanese government scholarships do not have to pay tuition fees and many scholarships are available for privately financed international students. In Korea, tuition fees and subsidies for mobile students vary depending on the contract between their school of origin and the school they attend in Korea. In general, most international students in Korea pay tuition fees that are somewhat lower than those paid by domestic students. In New Zealand (except in advanced research programmes) international students generally pay full tuition fees (*i.e.* unsubsidised). However, international students from Australia, a partner country of New Zealand, receive the same subsidies as domestic students. All other international students have to pay full tuition fees (*i.e.* unsubsidised). In Australia and Canada, all international students pay full tuition fees. This is true also in the partner country the Russian Federation unless students are subsidised by the Russian government.

The fact that Finland, Iceland, Norway and Sweden do not have tuition fees for international students and the existence of programmes in English probably explains part of the robust growth in the number of foreign students enrolled in some of these countries between 2000 and 2008 (Table C2.1). However, in the absence of fees, the high unit costs of tertiary education mean that international students place a high monetary burden on their countries of destination (see Table B1.1a). For this reason, Denmark (which previously had no tuition fees) adopted tuition fees for non-EU and non-EEA international students as of 2006-07. Similar options are currently being discussed in Finland and Sweden, where foreign enrolments grew by more than 100% and 35% respectively between 2000 and 2008.

Box C2.3. Structure of tuition fees

Tuition fees structure	OECD and partner countries
Higher tuition fees for international students than for domestic students	Australia, Austria,[1] Belgium,[1] Canada, the Czech Republic,[1] Denmark,[1] Estonia,[1] Ireland,[1] the Netherlands,[1] New Zealand,[2] the Russian Federation, Turkey, the United Kingdom,[1] the United States[3]
Same tuition fees for international and domestic students	France, Germany, Italy, Japan, Korea, Mexico,[4] Spain
No tuition fees for either international or domestic students	Finland, Iceland, Norway, Sweden

1. For non-European Union or non-European Economic Area students.
2. Except students in advanced research programmes, or students from Australia.
3. International students pay the same fees as domestic out-of-state students. However since most domestic students are enrolled in state, international students pay higher tuition fees than most domestic students in practice.
4. Some institutions charge higher tuition fees for international students.

Source: OECD. Indicator B5. See Annex 3 for notes (*www.oecd.org/edu/eag2010*).

Countries that charge their international students the full cost of education reap significant trade benefits. Several countries in the Asia-Pacific region have actually made international education an explicit part of their socioeconomic development strategy and have initiated policies to attract international students on a revenue-generating or at least self-financing basis. Australia and New Zealand have successfully adopted differentiated tuition fees for international students. In Japan and Korea, with the same high tuition fees for domestic and international students, foreign enrolments nevertheless grew robustly between 2000 and 2008 (see Indicator B5). This shows that tuition costs do not necessarily discourage prospective international students as long as the quality of education provided and its likely returns make the investment worthwhile. However, in choosing between similar educational opportunities, cost considerations may play a role, especially for students from developing countries. In this respect, the comparatively small rise in foreign enrolments in the United Kingdom and the United States between 2000 and 2008 and the deterioration of the United States' market share may be attributed to the comparatively high tuition fees charged to international students in a context of fierce competition from other primarily English-speaking destinations offering similar educational opportunities at lower cost. In New Zealand, the attractiveness of advanced research programmes has increased notably since 2005 due to the the reduction of tuition fees for international students to the level paid by domestic students (Box C2.3).

A factor that can ease the cost of studying abroad is the extent to which public funding or student support for tertiary education is portable. In Belgium (Flemish Community), Chile, Finland, Iceland, the Netherlands, Norway and Sweden, the international portability of public funding for tuition or student support clearly eases some of the financial constraints borne by students.

Impact of immigration policy on foreign students' destinations

In recent years, several OECD countries have eased their immigration policies to encourage the temporary or permanent immigration of their international students. Australia, Canada and New Zealand, for example, make it easy for foreign students who have studied in their universities to settle by granting them additional points for their immigration file. This makes these countries more attractive to students and strengthens their knowledge economy. As a result, immigration considerations may also affect some international students' choice between alternative educational opportunities abroad. In addition, the total freedom of movement of workers within Europe explains part of the high level of student mobility in Europe compared to that between the countries of North America, as the North American Free Trade Agreement (NAFTA) does not permit the free movement of workers within a common labour market.

Other factors

Other important factors for foreign students include the academic reputation of particular institutions or programmes; the flexibility of programmes with respect to counting time spent abroad towards degree requirements; the limitations of tertiary education provision in the home country; restrictive university admission policies at home; geographical, trade or historical links between countries; future job opportunities; cultural aspirations; and government policies to facilitate transfer of credits between home and host institutions. The transparency and flexibility of courses and degree requirements are also important.

Extent of student mobility in tertiary education

The foregoing analysis has focused on trends in absolute numbers of foreign students and their distribution by countries of destination since time series or global aggregates on student mobility do not exist. It is also possible to measure the extent of student mobility in each country of destination by examining the proportion of international students in total tertiary enrolments. This has the advantage of taking the size of different tertiary education systems into account and highlighting those that are highly internationalised, regardless of their size and the importance of their market share.

Among countries for which data on student mobility are available, Australia, Austria, New Zealand, Switzerland and the United Kingdom display the highest levels of incoming student mobility, measured as the proportion of international students in their total tertiary enrolment. In Australia, 20.6% of tertiary students have come to the country in order to pursue their studies. Similarly, international students represent 15.5% of total tertiary enrolments in Austria, 12.9% in New Zealand, 14.1% in Switzerland and 14.7% in the United Kingdom. In contrast, incoming student mobility is less than 2% of total tertiary enrolments in Chile and the partner countries Estonia and Slovenia (Table C2.1 and Chart C2.1).

Among countries for which data based on the preferred definition of mobile students are not available, foreign enrolments constitute a large group of tertiary students in France (11.2%) and Germany (10.9%), an indication of significant levels of incoming student mobility. However foreign enrolments represent 1% or less of total tertiary enrolments in Poland and Turkey (Table C2.1).

Proportion of international students at different levels and types of tertiary education

The proportion of international students in different types of tertiary education in each country of destination also sheds light on patterns of student mobility. A first observation is that, with the exception of Denmark, Japan, New Zealand, Portugal and Spain, tertiary-type B programmes are far less internationalised than tertiary-type A programmes. This indicates that international students are mostly attracted to traditional academic programmes for which degree transferability is often easier. With the exception of Greece this observation also holds true for countries for which data using the preferred definition of student mobility are not available (Table C2.1).

Most countries display significantly higher incoming student mobility relative to total enrolments in advanced research programmes than in tertiary-type A programmes. This pattern is clear in Belgium, Canada, Chile, Iceland, Japan, New Zealand, Spain, Sweden, Switzerland, the United Kingdom, the United States and the partner country Slovenia, as well as in France and Korea, countries for which data using the preferred definition of student mobility are not available. This may be due to the attractiveness of advanced research programmes in these countries or to a preference for recruitment of international students at higher levels of education to profit from their contribution to domestic research and development or in anticipation of their subsequent recruitment as highly qualified immigrants.

Profile of international student intake in different destinations

Main regions of origin

Asian students form the largest group of international students enrolled in countries reporting data to the OECD or the UNESCO Institute for Statistics: 49.9% of the total in all reporting destinations (48.9% of the total in OECD countries, and 53.8% of the total in partner countries).

Their predominance in OECD countries is greatest in Australia, Japan and Korea, where more than 75% of international or foreign students originate from Asia. In OECD countries, the Asian group is followed by Europeans (24.5%), particularly EU citizens (16.8%). Students from Africa account for 10.1% of all international students, while those from North America account for only 3.7%. Finally, students from South America represent 5.3% of the total. Altogether 31% of international students enrolled in the OECD area originate from another OECD country (Table C2.2).

Main countries of origin of international students

The predominance of students from Asia and Europe is also clear when looking at individual countries of origin. Students from France, Germany, Japan and Korea represent the largest groups of international OECD students enrolled in OECD countries, at 2.4%, 3.4%, 2.1% and 4.6% of the total, respectively, followed by students from Canada and the United States at 1.8% in both cases (Table C2.2).

Among international students originating from non-member countries, students from China represent by far the largest group, with 17.1% of all international students enrolled in the OECD area (not including an additional 1.4% from Hong Kong, China) (Table C2.2). Their destination of choice is the United States, followed closely by Japan, with 21.6% and 15.3%, respectively, of all international Chinese students studying abroad. In the OECD countries, students from China are followed by those from India (6.8%), Malaysia (1.8%), Morocco (1.6%), the Russian Federation (1.3%) and Viet Nam (1.3%). A significant number of Asian students studying abroad also come from Indonesia, the Islamic Republic of Iran, Pakistan, Singapore and Thailand.

Proportion of international students by level and type of tertiary education

The proportion of international students by level and type of tertiary education highlights the specialisation of countries in their programme offer. In some countries, a comparatively large proportion of international students are enrolled in tertiary-type B programmes. This is the case in Belgium (31.1%), Canada (21.4%), Chile (32.7%), Japan (21.6%), New Zealand (26.2%) and Spain (34.6%). In Greece, for which data using the preferred definition of student mobility are not available, foreign enrolments in tertiary-type B programmes also constitute a large group of foreign students (40.3%) (Table C2.4).

In other countries, a large proportion of international students enrol in advanced research programmes. This is particularly true in Spain (23.1%), Switzerland (26.3%) and the United States (20.7%). Such patterns suggest that these countries offer attractive advanced programmes to prospective international graduate students. This concentration can also be observed – to a more limited extent – in Finland (14.8%), Japan (10.5%), Portugal (12.9%), the Slovak Republic (10.8%), Sweden (17.5%) and the United Kingdom (10.0%). Among countries for which data using the preferred definition of mobile students are not available, foreign enrolments in advanced research programmes constitute a large group of foreign students in France (11.5%). All of these countries are likely to benefit from the contribution of these high-level international students to domestic research and development. In addition, this can generate higher tuition revenue per international student in the countries charging full tuition costs to foreign students (Box C2.3).

Proportion of international students by field of education

It is possible to use the proportion of international students by field of education to identify magnet centres. The distribution is linked to a wide variety of factors ranging from linguistic

considerations and the recognition of degrees to the existence of centres of excellence or expertise in countries of destination.

As shown in Table C2.5, sciences attract at least 1 in 6 international students in Germany (16.9%), Iceland (17.2%), New Zealand (20.5%) and the United States (19.7%), but fewer than 1 in 50 in Japan (1.3%). However, the picture changes slightly when agriculture, engineering, manufacturing and construction programmes are included among scientific disciplines. Sweden receives 50.1% of its international students in these fields. The proportion of international students enrolled in agriculture, sciences or engineering is also high in Canada (32.2%), Denmark (31.0%), Finland (43.3%), Germany (38.9%), New Zealand (29.4%), Switzerland (33.2%), the United Kingdom (28.9%), the United States (36.7%) and the partner country Slovenia (30.9%). Similarly, among countries for which data using the preferred definition of mobile students are not available, agriculture, sciences and engineering attract at least 28% of foreign students in France (29.2%). In contrast, few international students are enrolled in agriculture, sciences and engineering in Spain (Chart C2.4).

Most countries that enrol large proportions of their international students in agriculture, sciences and engineering offer programmes in English. In Germany, the large proportion of foreign students in scientific disciplines may also reflect its strong tradition in these fields.

Non-English-speaking countries tend to enrol a higher proportion of international students in the humanities and the arts, the areas favoured by over 20% of the international students in Germany (21.2%), Iceland (41.7%), Japan (24.5%) and Norway (21.4%).

Social sciences, business and law programmes also attract international students in large numbers. In Australia, the Netherlands and the partner country Estonia, these fields enrol around half of all international students (at 55.8%, 46.4% and 54.4%, respectively). Among countries for which data using the preferred definition of mobile students are not available, France (40.1%) has the largest proportion of their foreign students enrolled in these subjects.

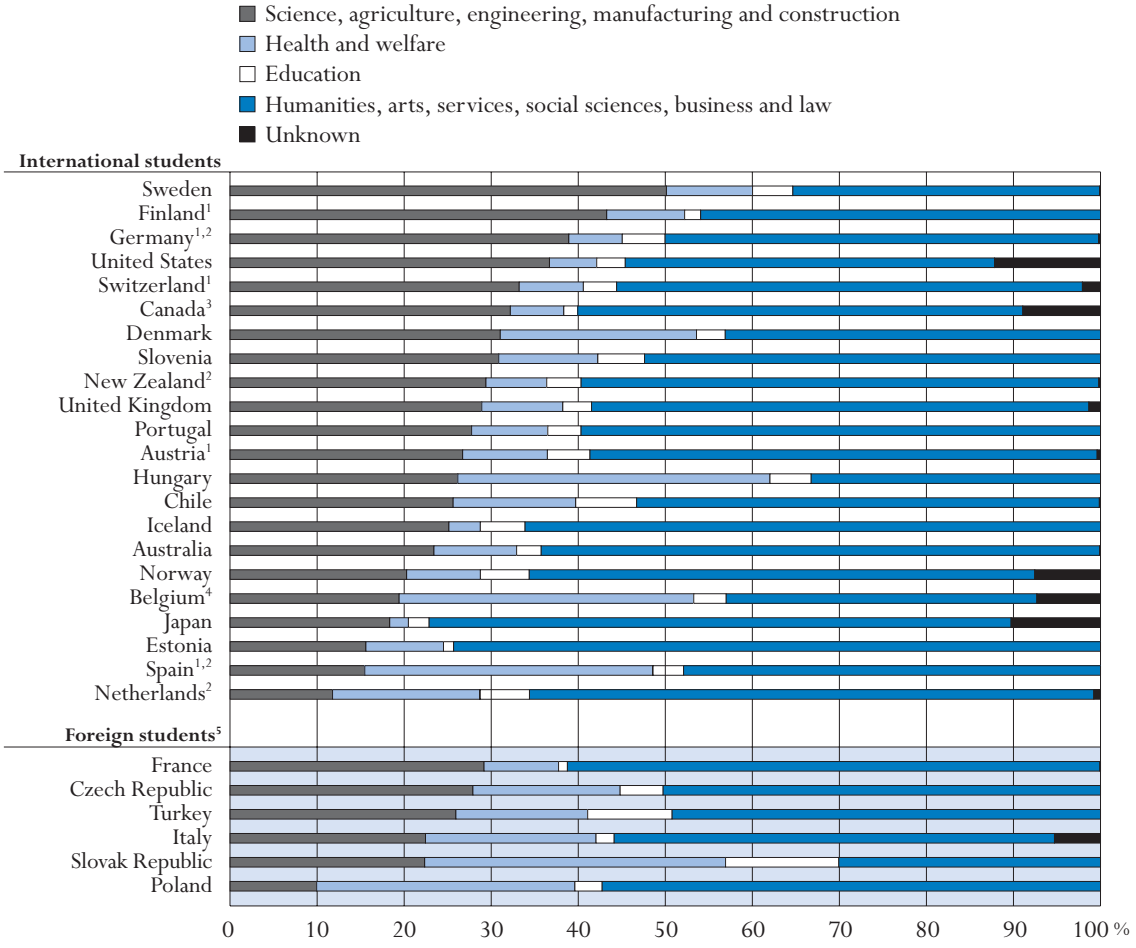
Enrolments in health and welfare programmes depend to a large extent on national policies relating to recognition of medical degrees. These programmes attract large proportions of international students in EU countries, most notably in Belgium (33.8%) and Hungary (35.9%). Among countries for which data using the preferred definition of mobile students are not available, health and welfare programmes are also chosen by around one-third of foreign students in Poland (29.7%) and the Slovak Republic (34.6%). Because many European countries impose quotas that restrict access to educational programmes in the medical field, this increases the demand for training in other EU countries in order to bypass quotas and take advantage of EU countries' automatic recognition of medical degrees under the European Medical Directive.

Overall, the concentration of international students in various disciplines is due to many factors on both the supply and demand side.

On the supply side, some destinations offer centres of excellence or traditional expertise that attract students from other countries in large numbers (*e.g.* Finland and Germany in sciences and engineering). In the humanities and arts, some destinations also have a natural monopoly on some programmes. This is especially obvious for linguistic or cultural studies (*e.g.* Austria, France, Germany and Japan).

Chart C2.4. Distribution of international and foreign students, by field of education (2008)

This chart shows the percentage of international students in tertiary enrolments



1. Excludes tertiary-type B programmes.
2. Excludes advanced research programmes.
3. Year of reference 2007.
4. Excludes data for social advancement education.
5. Data on foreign students are not comparable with data on international students and are therefore presented separately.

Countries are ranked in descending order of the proportion of international students enrolled in sciences, agriculture, engineering, manufacturing and construction.

Source: OECD. Table C2.5. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310434

On the demand side, the characteristics of international students can help to explain their concentration in certain fields of tertiary education. For instance, the almost universal use of English in scientific literature may explain why students in scientific disciplines are more likely to study in countries offering education programmes in English and less likely to enrol in countries where these are less common. Similarly, the demand of many Asian students for business training may explain the strong concentration of international students in social sciences, business and law in neighbouring Australia and New Zealand and to a lesser extent in Japan. Finally, EU provisions for the recognition of medical degrees clearly drive the concentration of international students in health and welfare programmes in EU countries.

Destinations of citizens enrolled abroad

For tertiary education outside of their country of citizenship, OECD students enrol predominantly in another country of the OECD area. On average, only 5.1% of foreign students from OECD countries are enrolled in a partner country. The proportion of foreign students from partner countries enrolled in another partner country is significantly higher, with more than 25% of foreign students from Estonia, Indonesia, Israel and the Russian Federation enrolled in another partner country. In contrast, students from Iceland (0.1%), Ireland (0.4%), Luxembourg (0.2%) and the Slovak Republic (0.3%) display an extremely low propensity to study outside of the OECD area (Table C2.3).

Language and cultural considerations, geographic proximity and similarity of education systems are all important determinants of the choice of destination. Geographic considerations and differences in entry requirements are likely explanations of the concentration of students from Germany in Austria, from Belgium in France and the Netherlands, from France in Belgium, from Canada in the United States, from New Zealand in Australia, etc. Language issues as well as academic traditions also shed light on the propensity for English-speaking students to concentrate in other countries of the Commonwealth or in the United States, even those that are geographically distant. This is also true for other historic geopolitical areas as the former Soviet Union, the Francophonie and Latin America. Migration networks also play a role, as illustrated by the concentration of students with Portuguese citizenship in France, students from Turkey in Germany or from Mexico in the United States.

Finally, international students' destinations also highlight the attractiveness of specific education systems, whether for reasons of academic reputation or subsequent immigration opportunities. In this respect, it is noteworthy that students from China are mostly in Australia, Canada, France, Germany, Japan, Korea, New Zealand, the United Kingdom and the United States, most of which have schemes to facilitate the immigration of international students. Similarly, students from India favour Australia, the United Kingdom and the United States; these three destinations attract 79.6% of Indian citizens enrolled abroad (Table C2.3).

Definitions and methodologies

Data sources, definitions and reference period

Data on international and foreign students refer to the academic year 2007-08 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*). Additional data from the UNESCO Institute for Statistics are also included.

Students are classified as international students if they left their country of origin and moved to another country for the purpose of study. Depending on country-specific immigration legislation, mobility arrangements (*e.g.* free mobility of individuals within the EU and EEA areas), and data availability, international students may be defined as students who are not permanent or usual residents of their country of study or alternatively as students who obtained their prior education in a different country (*e.g.* EU countries).

Permanent or usual residence in the reporting country is defined according to national legislation. In practice, this means holding a student visa or permit, or electing a foreign country

of domicile in the year prior to entering the education system of the country reporting data. The country of prior education is defined as the country in which students obtained the qualification required to enrol in their current level of education, *i.e.* the country in which they obtained their upper secondary or post-secondary non-tertiary education for international students enrolled in tertiary-type A and tertiary-type B programmes and the country in which they obtained their tertiary-type A education for international students enrolled in advanced research programmes. Country-specific operational definitions of international students are indicated in the tables as well as in Annex 3 (*www.oecd.org/edu/eag2010*).

Students are classified as foreign students if they are not citizens of the country in which the data are collected. While pragmatic and operational, this classification is inappropriate for capturing student mobility because of differing national policies regarding the naturalisation of immigrants. For instance, while Australia and Switzerland report similar intakes of foreign students relative to their tertiary enrolments – 23.6% and 20.3%, respectively – these proportions reflect significant differences in the actual levels of student mobility – 20.6% of tertiary enrolments in Australia and 14.1% in Switzerland (Table C2.1). This is because Australia has a higher propensity to grant permanent residence to its immigrant populations than Switzerland. Therefore, interpretations of data based on the concept of foreign students in terms of student mobility and bilateral comparisons need to be made with caution.

Methodologies

Data on international and foreign students are obtained from enrolments in their countries of destination. The method of obtaining data on international and foreign students is therefore the same as that used for collecting data on total enrolments, *i.e.* records of regularly enrolled students in an educational programme. Domestic and international students are usually counted on a specific day or period of the year. This procedure makes it possible to measure the proportion of international enrolments in an education system, but the actual number of individuals involved may be much higher since many students study abroad for less than a full academic year, or participate in exchange programmes that do not require enrolment (*e.g.* interuniversity exchange or advanced research short-term mobility). Moreover, the international student body comprises some distance-learning students who are not, strictly speaking, mobile students. This pattern of distance enrolments is fairly common in the tertiary institutions of Australia, the United Kingdom and the United States (OECD, 2004).

Since data on international and foreign students are obtained from tertiary enrolments in their country of destination, the data relate to incoming students rather than to students going abroad. Countries of destination covered by this indicator include all OECD countries except Chile, Luxembourg and Mexico and the partner countries Estonia, the Russian Federation and Slovenia, as well as countries reporting similar data to the UNESCO Institute for Statistics, in order to derive global figures and to examine the destinations of students and trends in market shares.

Data on students enrolled abroad as well as trend analyses are not based on the numbers of international students, but on the number of foreign citizens on whom data consistent across countries and over time are readily available. The data do not include students enrolled in countries that did not report foreign students to the OECD or to the UNESCO Institute for Statistics. All statements on students enrolled abroad may therefore underestimate the real

number of citizens studying abroad (Table C2.3), especially in cases where many citizens study in countries that do not report their foreign students to the OECD or UNESCO Institute for Statistics (*e.g.* China, India).

Table C2.1 displays international as well as foreign enrolments as a proportion of total enrolments at each level of tertiary education. Total enrolments, used as a denominator, comprise all persons studying in the country (including domestic and international students), but exclude students from that country who study abroad. The table also shows changes in foreign enrolments between 2000 and 2008 for all tertiary education.

Tables C2.2, C2.4 and C2.5 show the distribution of international students enrolled in an education system – or foreign students for countries that do not have information on student mobility – according to their country of origin (Table C2.2), according to their level and type of tertiary education (Table C2.4), and according to their field of education (Table C2.5).

Table C2.3 presents the distribution of citizens of a given country (*i.e.* foreign students) enrolled abroad according to their country of destination (or country of study). As mentioned above, the total number of students enrolled abroad, which is used as a denominator, covers only students enrolled in other countries reporting data to the OECD or the UNESCO Institute for Statistics. Therefore, the resulting proportions may be biased and overestimated for countries with large numbers of students studying in non-reporting countries.

Table C2.6 shows trends in the absolute numbers of foreign students reported by OECD countries and worldwide between 2000 and 2008, and the indexes of change between 2008 and the years from 2000 to 2007. The figures are based on the number of foreign students enrolled in countries reporting data to the OECD and to the UNESCO Institute for Statistics. Since data for countries that did not report to the OECD were not included in the past, the figures are not strictly comparable with those published in editions of *Education at a Glance* prior to 2006.

Table C2.7 (available on line) provides the matrix of foreign students' numbers by country of origin and country of destination.

Further references

The relative importance of international students in the education system affects tertiary entry and graduation rates and may artificially increase them in some fields or levels of education (see Indicators A2 and A3). It may also affect the mix recorded between public and private expenditure (see Indicator B3).

In countries in which differentiated tuition fees are applied to international students, student mobility may boost the financial resources of tertiary education institutions and contribute to the financing of the education system. International students may represent a heavy financial burden for countries in which tertiary tuition fees are low or inexistent given the high level of unit costs in tertiary education (see Indicator B5).

International students enrolled in a country different from their own are only one aspect of the internationalisation of tertiary education. New forms of cross-border education have emerged in the last decade, including the mobility of educational programmes and institutions across borders. Yet, cross-border tertiary education has developed quite differently and in response to

different rationales in different world regions. For a detailed analysis of these issues, as well as the trade and policy implications of the internationalisation of tertiary education see OECD (2004).

OECD (2004), *Internationalisation and Trade in Higher Education: Opportunities and Challenges,* OECD Publishing.

OECD (2008), *OECD Review of Tertiary Education: Tertiary Education for the Knowledge Society,* OECD Publishing.

Kelo, M., U. Teichler and B. Wächter (eds.) (2005), "EURODATA: Student Mobility in European Higher Education", Verlags and Mediengesellschaft, Bonn.

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310434

- ***Table C2.7. Number of foreign students in tertiary education, by country of origin and destination (2008) and market shares in international education (2000, 2008)***

Table C2.1.

Student mobility and foreign students in tertiary education (2000, 2008)

International students enrolled as a percentage of all students (international plus domestic), foreign enrolments as a percentage of all students (foreign and national) and index of change in the number of foreign students

Reading the first column: 20.6% of all students in tertiary education in Australia are international students and 14.1% of all students in tertiary education in Switzerland are international students.

Reading the fifth column: 23.6% of all students in tertiary education in Australia are not Australian citizens, and 20.3% of all students in tertiary education in Switzerland are not Swiss citizens.

	Student mobility				Foreign enrolments				
	International students as a percentage of all tertiary enrolment				Foreign students as a percentage of all tertiary enrolment				
	Total tertiary	Tertiary-type B programmes	Tertiary-type A programmes	Advanced research programmes	Total tertiary	Tertiary-type B programmes	Tertiary-type A programmes	Advanced research programmes	Index of change in the number of foreign students, total tertiary (2000 = 100)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries									
Australia	20.6	18.6	20.9	23.3	23.6	18.9	24.1	33.8	218
Austria	15.5	4.9	15.8	23.5	18.7	11.4	18.8	26.0	176
Belgium[1]	8.6	6.3	9.7	21.4	12.2	9.0	13.7	31.2	109
Canada[2, 3]	6.5	4.5	6.9	20.2	13.1	9.6	13.7	38.6	196
Chile	1.5	1.3	1.6	12.3	1.5	1.3	1.6	12.3	350
Czech Republic	m	m	m	m	7.1	1.1	7.5	9.9	510
Denmark	2.8	4.0	2.5	4.6	8.3	11.4	7.6	16.5	149
Finland	3.1	n	2.8	6.6	3.7	n	3.3	8.5	203
France	m	m	m	m	11.2	4.1	12.4	39.8	178
Germany	m	m	9.3	m	10.9	3.6	12.2	m	131
Greece[4]	m	m	m	m	4.1	4.5	4.1	m	304
Hungary	3.3	0.3	3.4	6.8	3.7	0.5	3.9	7.7	156
Iceland	4.3	1.2	4.2	15.9	4.9	2.1	4.8	17.4	202
Ireland	m	x(1)	x(1)	x(1)	7.2	x(5)	x(5)	x(5)	173
Italy	m	m	m	m	3.0	m	2.9	7.0	274
Japan	2.9	2.9	2.6	16.2	3.2	2.9	3.0	16.9	190
Korea	m	m	m	m	1.3	0.6	1.4	6.6	1 195
Luxembourg	m	m	m	m	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m	m
Netherlands[4]	5.0	n	5.1	m	6.8	n	6.9	m	291
New Zealand	12.9	12.5	12.4	31.3	24.4	22.3	24.4	46.9	726
Norway	2.1	1.4	2.0	4.2	7.6	3.4	7.1	25.0	185
Poland	m	m	m	m	0.7	n	0.7	2.6	244
Portugal	2.1	2.2	2.0	6.5	4.9	9.0	4.7	11.0	175
Slovak Republic	2.3	0.5	2.1	5.2	2.4	0.6	2.2	5.5	344
Spain	2.1	5.3	1.1	12.7	3.6	5.3	2.4	24.0	255
Sweden	5.6	0.5	5.1	19.7	8.5	4.1	7.9	23.7	135
Switzerland[4]	14.1	n	14.6	46.0	20.3	18.5	17.9	45.9	175
Turkey	m	m	m	m	0.8	0.1	1.0	2.7	115
United Kingdom	14.7	5.9	16.0	42.0	19.9	12.3	20.8	47.7	151
United States	3.4	1.0	3.4	28.1	m	m	m	m	131
OECD average	***6.7***	***3.6***	***6.8***	***18.2***	***8.5***	***6.0***	***8.6***	***21.1***	***263***
EU19 average	***5.9***	***2.7***	***6.2***	***14.9***	***7.6***	***4.8***	***7.8***	***18.6***	***220***
Partner countries									
Brazil	m	m	m	m	m	m	m	m	m
Estonia	1.5	0.3	2.1	3.3	3.6	3.3	3.6	4.7	281
Israel	m	m	m	m	m	m	m	m	m
Russian Federation[3, 4]	m	m	m	m	1.4	0.4	1.7	m	348
Slovenia	1.2	0.5	1.5	7.3	1.5	0.8	1.7	8.8	215

1. Excludes data for social advancement education.
2. Year of reference 2007 instead of 2008.
3. Excludes private institutions.
4. Percentage in total tertiary underestimated because of the exclusion of certain programmes.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310434

C2

Table C2.2.

Distribution of international and foreign students in tertiary education, by country of origin (2008)

Number of international and foreign students enrolled in tertiary education from a given country of origin as a percentage of all international or foreign students in the country of destination, based on head counts

The table shows for each country the proportion of international students in tertiary education who are residents of or had their prior education in a given country of origin.When data on student mobility are not available, the table shows the proportion of foreign students in tertiary education that have citizenship of a given country of origin.

Reading the second column: 0.7% of international tertiary students in Canada come from Germany, 0.1% of international tertiary students in Canada come from Greece, etc.

Reading the sixth column: 3.7% of international tertiary students in Ireland come from Germany, 0.4% of international tertiary students in Ireland come from Greece, etc.

Reading the 16th column: 32.7% of foreign tertiary students in Austria are German citizens, 0.6% of foreign tertiary students in Austria are Greek citizens, etc.

		Countries of destination																	
		OECD countries																	
		International students															Foreign students		
	Countries of origin	Australia	Canada[1,2]	Denmark	Germany[3,4]	Iceland	Ireland	Netherlands[4]	New Zealand	Portugal	Slovak Republic	Spain[3]	Sweden	Switzerland[3]	United Kingdom	United States	Austria[3,5]	Belgium[5,6]	Chile[5]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
OECD countries	Australia	a	0.3	0.1	0.2	0.7	0.6	n	8.9	0.1	n	n	0.2	0.1	0.5	0.5	0.2	n	n
	Austria	0.1	0.1	0.2	2.5	1.8	0.3	0.3	0.1	0.2	1.3	0.2	0.2	0.9	0.4	0.1	a	0.1	n
	Belgium	n	0.2	0.2	0.5	0.1	0.5	3.2	n	0.8	0.1	0.8	0.1	0.3	0.7	0.1	0.2	a	n
	Canada	1.9	a	0.4	0.3	1.9	4.5	0.2	1.4	0.5	0.2	0.1	0.4	0.4	1.5	4.7	0.2	0.2	0.1
	Chile	0.1	0.2	0.1	0.3	0.1	n	n	0.2	n	n	2.0	0.1	0.1	0.1	0.3	0.1	0.2	a
	Czech Republic	n	n	0.4	0.9	1.4	0.2	0.2	0.1	0.1	49.8	0.1	0.1	0.1	0.4	0.1	1.2	0.1	n
	Denmark	0.1	0.1	a	0.2	6.3	0.2	0.2	0.3	n	0.1	0.1	0.7	0.1	0.5	0.1	0.2	0.1	n
	Finland	n	n	1.4	0.3	5.8	0.3	0.3	0.1	n	0.1	0.1	5.0	0.1	0.5	0.1	0.3	0.1	n
	France	0.4	5.3	0.7	2.7	6.7	3.5	1.3	1.1	3.9	0.1	2.2	1.0	6.2	3.8	1.1	1.0	39.2	0.4
	Germany	0.8	0.7	4.9	a	12.4	3.7	41.0	4.1	1.9	4.2	2.1	2.8	10.6	4.1	1.4	32.7	1.6	0.6
	Greece	n	0.1	0.5	1.2	0.1	0.4	0.3	n	0.2	7.3	0.2	0.7	0.3	3.8	0.3	0.6	1.0	n
	Hungary	n	n	0.5	1.0	1.0	0.2	0.5	n	0.1	1.5	0.1	0.1	0.2	0.3	0.1	2.6	0.2	n
	Iceland	n	n	13.2	n	a	n	0.1	n	n	n	n	0.6	n	0.1	0.1	n	n	n
	Ireland	0.1	0.1	0.1	0.2	0.4	a	0.1	0.1	n	0.3	0.2	0.2	n	4.5	0.2	0.1	0.1	n
	Italy	0.1	0.2	1.0	1.8	3.6	1.8	0.6	0.1	1.5	0.3	2.7	0.7	2.8	1.7	0.6	12.6	4.1	0.2
	Japan	1.3	1.7	0.1	1.0	0.7	0.5	0.2	2.6	0.1	0.1	0.1	0.4	0.3	1.3	5.4	0.7	0.3	n
	Korea	2.7	0.1	0.1	2.1	n	0.4	0.2	n	n	0.2	0.1	0.2	0.2	1.2	11.1	0.8	0.1	0.3
	Luxembourg	n	n	n	1.4	n	0.1	0.1	n	0.4	n	0.1	n	0.4	0.2	n	1.0	3.8	n
	Mexico	0.2	1.2	0.4	0.7	0.1	0.2	0.2	0.2	0.2	n	5.2	0.4	0.2	0.4	2.4	0.2	0.2	1.3
	Netherlands	0.1	m	0.4	0.4	1.3	0.5	a	0.2	0.3	0.1	0.4	0.4	0.2	0.9	0.3	0.4	9.5	n
	New Zealand	0.9	0.1	n	n	0.1	0.1	n	a	n	n	n	n	n	0.2	0.2	n	n	n
	Norway	0.6	0.2	21.3	0.2	3.3	0.7	0.4	0.5	n	3.9	0.1	1.6	0.1	0.8	0.2	0.1	n	0.1
	Poland	0.1	0.2	4.2	5.6	4.3	1.6	1.4	n	0.8	1.5	0.6	0.8	0.5	2.6	0.4	3.1	1.2	n
	Portugal	n	0.1	0.2	0.2	n	0.3	0.2	n	a	0.2	5.5	0.3	0.2	0.8	0.1	0.2	1.8	n
	Slovak Republic	n	n	0.3	0.6	1.0	0.1	0.2	n	0.2	a	0.1	0.1	0.2	0.3	0.1	2.8	0.2	n
	Spain	0.1	0.1	0.7	2.0	4.0	1.5	0.8	0.1	5.4	0.2	a	0.6	0.6	1.7	0.6	0.9	2.1	0.6
	Sweden	0.4	0.1	13.8	0.3	6.1	0.6	0.3	0.4	0.1	0.9	0.2	a	0.2	1.0	0.5	0.3	0.1	0.1
	Switzerland	0.1	0.3	0.3	0.9	1.5	0.2	0.2	0.1	0.7	0.2	0.6	0.1	a	0.6	0.2	1.3	0.2	n
	Turkey	0.1	0.6	0.9	3.6	0.6	0.3	0.6	0.1	0.3	0.1	n	0.8	0.6	0.7	1.9	4.4	0.7	n
	United Kingdom	0.7	1.0	0.6	0.6	4.7	11.1	0.7	1.4	0.8	0.8	1.2	0.5	0.3	a	1.3	0.5	0.6	0.1
	United States	1.3	8.9	1.3	1.6	5.0	21.9	0.4	7.3	0.9	0.4	1.2	0.8	0.8	4.1	a	1.1	0.5	0.6
	Total from OECD countries	*12.5*	*22.1*	*68.4*	*33.4*	*75.1*	*56.3*	*54.1*	*29.8*	*19.7*	*73.9*	*26.3*	*19.8*	*27.2*	*39.6*	*34.7*	*69.8*	*68.6*	*4.7*
Partner countries	Brazil	0.3	0.5	0.3	1.0	0.6	0.1	0.2	0.3	21.1	n	2.6	0.2	0.5	0.4	1.2	0.2	0.4	1.9
	China	25.0	22.7	12.0	12.4	3.8	8.4	5.4	31.2	0.5	0.4	0.3	8.5	0.9	13.5	17.7	2.7	2.5	0.4
	Estonia	n	n	0.9	0.3	1.1	0.1	0.1	n	n	n	0.1	0.4	n	0.2	n	0.1	n	n
	India	11.5	3.5	2.4	1.8	0.4	3.4	0.2	13.0	0.3	0.1	0.1	3.0	0.5	7.7	15.2	0.6	0.7	n
	Indonesia	4.4	0.8	0.1	0.9	0.3	0.1	1.4	0.9	0.1	0.1	m	0.2	n	0.3	1.2	0.1	0.2	n
	Israel	0.1	0.3	0.1	0.7	n	0.1	0.2	n	0.1	2.6	0.1	0.1	0.1	0.2	0.5	0.2	0.1	0.1
	Russian Federation	0.3	0.5	0.9	5.1	2.8	0.6	0.7	0.9	0.7	0.7	0.3	1.1	0.8	0.8	0.8	1.1	1.4	0.1
	Slovenia	n	n	n	0.2	n	0.1	0.1	n	n	0.1	n	n	n	0.1	n	1.2	0.1	n
	South Africa	0.3	0.1	n	0.1	n	0.3	0.1	0.3	0.5	n	m	0.1	0.1	0.5	0.3	0.1	0.1	n
	Main geographic regions																		
	Total from Africa	*3.2*	*11.3*	*2.6*	*9.1*	*1.8*	*4.6*	*2.2*	*1.0*	*51.1*	*1.4*	*6.5*	*4.6*	*2.8*	*9.6*	*5.7*	*1.5*	*16.5*	*0.1*
	Total from Asia	*79.3*	*47.6*	*21.4*	*33.0*	*8.9*	*27.5*	*10.4*	*66.9*	*2.8*	*15.6*	*1.4*	*27.7*	*4.1*	*47.9*	*67.2*	*13.3*	*8.6*	*1.1*
	Total from Europe	*4.4*	*11.1*	*72.1*	*43.6*	*79.2*	*30.2*	*56.1*	*10.1*	*20.2*	*81.9*	*22.7*	*20.8*	*28.5*	*33.3*	*11.2*	*82.5*	*70.9*	*2.5*
	of which, from EU19 countries	*3.2*	*8.6*	*30.1*	*22.3*	*61.0*	*26.7*	*51.6*	*8.3*	*16.8*	*68.7*	*16.9*	*14.1*	*24.3*	*28.1*	*7.8*	*60.6*	*66.0*	*2.2*
	Total from North America	*3.2*	*9.5*	*1.7*	*1.9*	*7.1*	*26.4*	*0.6*	*8.8*	*1.4*	*0.5*	*1.2*	*1.3*	*1.1*	*5.7*	*4.7*	*1.3*	*0.7*	*0.7*
	Total from Oceania	*1.8*	*0.4*	*0.2*	*0.2*	*1.0*	*n*	*0.1*	*12.2*	*0.1*	*n*	*n*	*0.2*	*0.1*	*0.7*	*0.8*	*0.2*	*n*	*n*
	Total from South America	*1.2*	*7.4*	*1.3*	*4.1*	*2.1*	*0.9*	*1.8*	*1.1*	*23.6*	*0.6*	*28.3*	*1.6*	*2.1*	*2.3*	*10.3*	*1.2*	*2.4*	*39.0*
	Not specified	*6.9*	*12.7*	*0.6*	*8.0*	*n*	*10.4*	*29.0*	*n*	*0.8*	*n*	*39.8*	*43.9*	*61.3*	*0.6*	*n*	*0.1*	*0.9*	*56.5*
	Total from all countries	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

1. Year of reference 2007.
2. Excludes private institutions.
3. Excludes tertiary-type B programmes.
4. Excludes advanced research programmes.
5. Foreign students are defined on the basis of their country of citizenship; these data are not comparable with data on international students and are therefore presented separately in the table.
6. Excludes data for social advancement education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310434

Table C2.2. *(continued)*

Distribution of international and foreign students in tertiary education, by country of origin (2008)

Number of international and foreign students enrolled in tertiary education from a given country of origin as a percentage of all international or foreign students in the country of destination, based on head counts

The table shows for each country the proportion of international students in tertiary education who are residents of or had their prior education in a given country of origin. When data on student mobility are not available, the table shows the proportion of foreign students in tertiary education that have citizenship of a given country of origin.

Reading the second column: 0.7% of international tertiary students in Canada come from Germany, 0.1% of international tertiary students in Canada come from Greece, etc.

Reading the sixth column: 3.7% of international tertiary students in Ireland come from Germany, 0.4% of international tertiary students in Ireland come from Greece, etc.

Reading the 16th column: 32.7% of foreign tertiary students in Austria are German citizens, 0.6% of foreign tertiary students in Austria are Greek citizens, etc.

	Countries of destination																
	OECD countries												Partner countries				
	Foreign students												International		Foreign		
Countries of origin	Czech Republic[5]	Finland[5]	France[5]	Greece[5]	Hungary[5]	Italy[5]	Japan[5]	Korea[5]	Norway[5]	Poland[5]	Turkey[5]	Total OECD destinations	Estonia	Slovenia	Russian Federation[2,4,5]	Total partner country destinations	Total all reporting destinations
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
OECD countries																	
Australia	n	0.4	0.1	0.1	n	0.1	0.3	0.1	0.3	0.1	0.2	0.4	n	n	n	0.1	0.3
Austria	0.1	0.3	0.2	0.1	0.8	0.3	n	n	0.3	0.3	0.2	0.4	0.2	1.5	n	0.1	0.3
Belgium	n	0.2	1.1	0.1	0.1	0.3	n	n	0.2	0.1	0.1	0.4	0.8	0.2	n	n	0.3
Canada	0.2	0.7	0.6	0.1	0.8	0.2	0.3	0.5	0.5	2.5	n	1.8	0.2	0.1	n	0.1	1.5
Chile	n	0.1	0.3	n	n	0.3	n	n	0.4	n	n	0.2	n	n	n	0.3	0.2
Czech Republic	a	0.4	0.3	n	0.3	0.3	n	n	0.3	3.6	n	0.4	n	0.2	n	n	0.3
Denmark	n	0.4	0.1	n	n	0.1	n	n	5.2	0.1	n	0.2	0.8	0.1	n	n	0.2
Finland	n	a	0.1	0.1	0.1	0.1	0.1	n	1.9	0.1	n	0.2	56.8	0.1	n	0.2	0.2
France	0.1	1.4	a	0.2	0.4	1.5	0.4	0.1	1.1	0.6	0.2	2.4	0.7	0.5	0.1	0.1	1.9
Germany	1.0	3.7	2.8	1.5	10.6	2.3	0.4	0.2	4.7	3.1	1.9	3.4	1.7	0.7	0.2	0.3	2.7
Greece	0.5	0.5	0.8	a	1.1	6.6	n	n	0.2	0.1	4.3	1.1	n	0.2	0.2	0.5	1.0
Hungary	0.1	1.0	0.2	0.1	a	0.2	0.1	n	0.3	0.4	n	0.3	n	0.7	n	0.1	0.2
Iceland	n	0.2	n	n	0.4	n	n	n	1.7	n	n	0.1	n	n	n	n	0.1
Ireland	0.2	0.3	0.2	n	0.8	0.1	n	n	0.1	0.1	n	0.7	0.1	n	n	n	0.6
Italy	0.1	1.5	2.1	0.3	0.3	a	0.1	n	0.7	0.4	0.1	1.3	0.9	8.4	0.1	0.1	1.1
Japan	0.1	1.0	0.8	0.1	0.3	n	a	2.6	0.4	0.2	0.1	2.1	0.2	n	0.1	0.2	1.7
Korea	0.1	0.4	0.9	n	0.3	n	18.4	a	0.3	0.3	0.1	4.6	n	n	0.6	0.5	3.7
Luxembourg	n	n	0.6	n	n	0.1	n	n	n	n	n	0.3	n	n	n	n	0.2
Mexico	n	0.7	0.7	n	n	0.4	0.1	n	0.3	0.1	n	1.0	0.1	0.1	n	0.3	0.8
Netherlands	0.1	0.7	0.3	0.1	0.1	0.2	0.1	n	1.3	0.1	0.2	0.5	0.5	n	m	n	0.4
New Zealand	n	0.1	n	n	n	n	0.1	0.1	n	n	n	0.2	n	n	n	n	0.1
Norway	0.9	0.7	0.1	n	4.5	0.1	n	n	a	6.8	n	0.5	0.6	0.1	n	n	0.4
Poland	1.0	1.7	1.3	0.4	0.3	2.1	0.1	n	1.4	a	n	1.3	0.2	0.8	n	0.1	1.1
Portugal	1.3	0.3	1.1	n	0.1	0.2	n	n	0.3	0.5	n	0.5	0.1	0.1	n	n	0.4
Slovak Republic	66.7	0.2	0.2	n	14.1	0.3	n	n	0.2	0.8	n	1.1	n	0.5	n	n	0.9
Spain	0.1	1.1	1.6	0.1	0.3	0.7	0.1	n	1.1	0.6	n	0.9	0.4	0.3	n	n	0.7
Sweden	0.4	4.7	0.2	0.1	2.1	0.2	0.1	n	8.0	4.8	n	0.6	1.0	0.2	n	0.1	0.5
Switzerland	n	0.2	0.7	0.1	0.1	1.7	n	n	0.3	n	n	0.4	0.3	n	n	0.1	0.3
Turkey	0.2	0.8	0.9	0.6	0.9	0.7	0.1	0.2	0.5	0.6	a	1.2	0.1	0.4	0.3	2.5	1.5
United Kingdom	1.5	1.8	1.0	0.4	0.7	0.4	0.3	0.1	1.9	0.7	0.5	0.8	0.7	n	n	0.1	0.7
United States	1.0	2.0	1.3	0.5	1.5	0.5	1.5	1.5	2.2	6.4	0.2	1.8	1.7	0.3	0.1	0.6	1.6
Total from OECD countries	*76.0*	*27.6*	*20.8*	*5.2*	*41.2*	*19.8*	*22.8*	*5.7*	*36.2*	*33.7*	*8.5*	*31.0*	*67.9*	*15.7*	*m*	*6.5*	*25.9*
Partner countries																	
Brazil	0.1	0.6	1.2	n	n	1.5	0.4	0.1	0.6	0.3	n	0.8	0.1	0.1	0.1	0.5	0.8
China	0.4	16.4	8.6	0.1	1.5	4.4	61.6	75.8	4.7	1.3	0.8	17.1	4.9	0.3	7.9	10.6	15.7
Estonia	n	6.0	0.1	n	0.1	0.1	n	n	0.5	0.1	n	0.1	a	0.1	0.5	0.2	0.1
India	0.4	2.1	0.4	n	0.3	0.9	0.4	1.0	1.1	2.5	n	6.8	0.7	0.2	3.7	1.7	5.7
Indonesia	n	0.2	0.1	n	n	0.1	1.2	0.7	0.5	n	0.1	1.0	n	n	0.1	1.5	1.1
Israel	0.6	0.2	0.1	0.3	5.1	1.8	n	n	0.2	0.2	0.1	0.4	0.1	n	0.4	1.0	0.5
Russian Federation	5.0	11.4	1.4	1.3	1.3	1.4	0.3	0.6	5.4	3.1	2.6	1.3	4.9	1.4	a	3.1	1.7
Slovenia	0.1	0.2	n	n	0.2	0.5	n	n	n	0.1	n	0.1	n	a	n	n	0.1
South Africa	n	0.1	n	0.1	n	n	n	n	0.2	0.1	n	0.2	0.1	n	n	0.1	0.2
Main geographic regions																	
Total from Africa	*1.5*	*16.5*	*43.5*	*3.3*	*1.9*	*9.6*	*0.8*	*0.8*	*10.3*	*5.5*	*2.2*	*10.1*	*0.9*	*0.5*	*m*	*17.4*	*11.6*
Total from Asia	*9.7*	*32.9*	*21.0*	*61.4*	*17.2*	*13.2*	*93.3*	*95.2*	*16.9*	*19.1*	*56.5*	*48.9*	*7.6*	*1.4*	*59.4*	*53.8*	*49.9*
Total from Europe	*86.3*	*44.4*	*21.3*	*33.1*	*78.2*	*50.0*	*2.6*	*1.4*	*44.9*	*65.2*	*26.6*	*24.5*	*89.2*	*95.6*	*35.0*	*17.2*	*23.0*
of which, from EU19 countries	*73.4*	*20.3*	*14.2*	*3.6*	*32.2*	*15.9*	*1.8*	*0.5*	*29.2*	*16.5*	*7.8*	*16.8*	*64.7*	*14.6*	*m*	*a*	*m*
Total from North America	*1.2*	*2.7*	*1.9*	*0.6*	*2.3*	*0.7*	*1.8*	*2.1*	*2.7*	*9.0*	*0.3*	*3.7*	*1.9*	*0.4*	*m*	*0.8*	*3.1*
Total from Oceania	*n*	*0.5*	*0.2*	*0.1*	*0.1*	*0.1*	*0.4*	*0.2*	*0.3*	*0.2*	*0.2*	*0.8*	*n*	*n*	*m*	*1.9*	*1.0*
Total from South America	*0.8*	*2.7*	*5.2*	*0.3*	*0.3*	*7.8*	*1.0*	*0.4*	*2.5*	*1.0*	*n*	*5.3*	*0.4*	*0.5*	*m*	*8.9*	*6.0*
Not specified	*0.4*	*0.4*	*6.9*	*1.3*	*n*	*18.6*	*n*	*n*	*22.3*	*n*	*14.1*	*6.8*	*n*	*1.5*	*5.6*	*n*	*5.3*
Total from all countries	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

1. Year of reference 2007.
2. Excludes private institutions.
3. Excludes tertiary-type B programmes.
4. Excludes advanced research programmes.
5. Foreign students are defined on the basis of their country of citizenship; these data are not comparable with data on international students and are therefore presented separately in the table.
6. Excludes data for social advancement education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310434

C2

Table C2.3.

Citizens studying abroad in tertiary education, by country of destination (2008)

Number of foreign students enrolled in tertiary education in a given country of destination as a percentage of all students enrolled abroad, based on head counts

The table shows for each country the proportion of students studying abroad in tertiary education in a given country of destination.

Reading the second column: 6.1% of Czech citizens enrolled in tertiary education abroad study in Austria, 15.9% of Italian citizens enrolled in tertiary education abroad study in Austria, etc.

Reading the first row: 2.9% of Australian citizens enrolled in tertiary education abroad study in France, 27.9% of Australian citizens enrolled in tertiary education abroad study in New Zealand, etc.

		Countries of destination																		
		OECD countries																		
	Countries of origin	Australia	Austria[1]	Belgium[2]	Canada[3, 4]	Chile	Czech Republic	Denmark	Finland	France	Germany[5]	Greece	Hungary	Iceland	Ireland[6]	Italy	Japan	Korea	Luxembourg	Mexico	Netherlands[5]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
OECD countries	**Australia**	a	0.9	0.1	4.5	n	n	0.4	0.4	2.9	3.5	0.2	0.1	n	0.8	0.4	3.3	0.4	n	m	0.6
	Austria	1.8	a	0.4	1.1	n	0.2	0.4	0.3	3.8	50.2	0.3	1.0	0.1	0.3	1.4	0.3	0.1	n	m	1.9
	Belgium	0.7	1.0	a	2.8	n	0.1	0.4	0.2	24.3	8.5	0.2	0.1	n	0.5	1.7	0.5	n	0.8	m	19.3
	Canada	9.6	0.3	0.2	a	n	0.1	0.2	0.2	3.1	1.3	0.1	0.3	n	1.3	0.3	0.8	0.5	n	m	0.3
	Chile	2.4	0.4	1.0	4.0	a	n	0.4	0.2	8.2	6.9	n	n	n	n	2.2	0.5	0.1	n	m	0.5
	Czech Republic	1.0	6.1	0.6	1.0	n	a	0.7	0.4	7.3	19.7	0.1	0.4	0.1	0.3	1.8	0.5	0.1	0.1	m	1.4
	Denmark	2.4	1.7	0.6	1.7	n	0.1	a	0.8	3.3	8.2	0.1	0.1	1.1	0.3	0.9	0.5	0.1	0.1	m	2.7
	Finland	1.1	1.9	0.4	0.9	n	0.1	2.2	a	3.0	7.7	0.2	0.2	0.5	0.4	0.8	0.8	0.1	0.1	m	2.1
	France	1.6	0.8	26.4	10.0	0.1	0.1	0.4	0.2	a	9.2	0.1	0.1	0.1	0.7	1.6	0.8	0.1	0.4	m	1.3
	Germany	2.0	18.5	0.7	1.3	0.1	0.3	1.5	0.4	7.3	a	0.4	1.7	0.1	0.5	1.7	0.5	0.1	0.3	m	17.5
	Greece	0.2	0.9	1.3	0.5	n	0.4	0.2	0.2	5.6	16.5	a	0.5	n	0.2	13.3	0.1	n	0.1	m	2.0
	Hungary	0.6	17.2	1.3	1.5	n	0.5	2.0	1.4	7.2	27.3	0.2	a	0.1	0.3	2.1	1.0	n	0.1	m	3.2
	Iceland	1.0	0.7	0.1	1.5	n	0.1	48.1	0.6	1.0	2.5	n	1.7	a	0.2	0.2	0.5	n	n	m	2.2
	Ireland	1.0	0.3	0.3	1.3	n	0.3	0.2	0.2	2.1	1.9	n	0.7	n	a	0.2	0.1	n	n	m	0.7
	Italy	0.7	15.9	4.1	0.7	0.1	0.1	0.5	0.4	11.8	17.2	0.2	0.1	0.1	0.5	a	0.3	n	0.1	m	1.5
	Japan	5.6	0.7	0.3	4.1	n	n	0.1	0.2	3.6	4.2	n	0.1	n	0.1	n	a	2.0	n	m	0.4
	Korea	5.4	0.4	0.1	0.3	n	n	n	n	2.0	4.4	n	n	n	n	n	20.2	a	n	m	0.2
	Luxembourg	0.2	7.0	21.0	0.4	n	n	0.1	n	20.2	33.3	n	n	n	0.1	0.5	0.1	n	a	m	0.8
	Mexico	1.6	0.3	0.3	6.1	0.5	n	0.2	0.3	6.1	4.8	n	n	n	0.1	0.9	0.5	0.1	n	a	0.7
	Netherlands	1.8	1.5	29.2	m	m	0.1	1.7	0.6	4.7	11.1	0.1	0.1	0.1	0.4	0.9	0.6	n	0.1	m	a
	New Zealand	48.9	0.3	0.1	3.4	n	0.1	0.3	0.2	1.5	1.5	0.1	n	n	0.4	0.1	2.1	0.8	n	m	0.2
	Norway	10.5	0.5	0.1	1.5	0.1	1.9	17.7	0.6	2.4	3.6	n	5.1	0.2	0.7	0.5	0.4	n	n	m	2.4
	Poland	0.4	4.2	1.3	2.1	n	0.7	2.1	0.5	8.4	35.9	0.3	0.1	0.1	0.5	3.7	0.3	n	n	m	2.2
	Portugal	0.4	0.8	5.2	2.6	n	2.5	0.4	0.2	17.6	10.2	0.1	0.1	n	0.2	0.9	0.2	n	1.6	m	1.9
	Slovak Republic	0.3	5.4	0.2	0.5	n	68.8	0.2	0.1	1.5	5.2	n	8.0	n	0.1	0.8	0.1	n	n	m	0.4
	Spain	0.5	1.9	3.5	0.8	0.3	0.1	0.8	0.5	15.6	18.8	0.1	0.2	0.1	0.7	2.0	0.4	0.1	0.1	m	3.3
	Sweden	5.5	1.1	0.4	1.3	n	0.7	11.6	3.4	2.9	4.0	0.2	2.1	0.3	0.5	0.8	0.9	0.1	n	m	1.3
	Switzerland	2.7	6.3	0.9	3.2	n	0.1	0.7	0.2	14.3	19.8	0.3	0.1	0.1	0.2	10.1	0.5	0.1	n	m	1.6
	Turkey	0.5	3.6	0.4	1.4	n	0.1	0.6	0.1	3.5	36.5	0.2	0.2	n	0.1	0.7	0.3	0.1	n	m	1.3
	United Kingdom	5.9	0.8	0.8	8.8	n	1.4	1.6	0.7	8.8	6.0	0.4	0.4	0.1	4.9	0.9	1.5	0.1	n	m	2.9
	United States	5.8	1.1	0.4	19.0	0.1	0.5	0.6	0.4	6.2	6.3	0.2	0.4	0.1	5.4	0.7	3.7	1.2	n	m	1.0
	Total from OECD countries	*3.2*	*4.2*	*3.3*	*3.4*	*0.1*	*2.4*	*1.3*	*0.3*	*5.7*	*11.2*	*0.2*	*0.7*	*0.1*	*0.8*	*1.5*	*3.2*	*0.3*	*0.1*	*m*	*3.1*
Partner countries	**Brazil**	2.3	0.4	0.6	3.2	0.8	n	0.3	0.2	10.7	8.0	n	n	n	n	3.8	1.7	0.1	n	m	0.6
	China	11.3	0.3	0.2	7.1	n	n	0.4	0.4	4.1	5.0	n	n	n	0.2	0.6	15.3	6.0	n	m	0.7
	Estonia	0.2	1.1	0.4	0.8	n	n	4.9	15.2	2.9	15.4	0.2	0.2	0.2	0.3	1.1	0.4	n	n	m	1.5
	India	14.4	0.2	0.2	5.6	n	n	0.2	0.1	0.6	2.0	n	n	n	0.2	0.3	0.3	0.2	n	m	0.2
	Indonesia	27.8	0.1	0.2	2.9	n	n	n	n	0.7	6.7	n	n	n	n	0.2	4.3	0.7	n	m	3.0
	Israel	1.2	0.5	0.2	6.6	n	1.0	0.3	0.1	1.7	8.4	0.5	4.7	n	n	7.1	0.3	n	n	m	1.0
	Russian Federation	1.0	1.0	1.0	2.8	n	2.4	0.7	2.2	5.7	21.2	0.6	0.3	n	0.1	1.6	0.6	0.4	n	m	0.8
	Slovenia	0.6	22.8	0.8	0.5	n	0.7	0.6	0.6	3.4	21.2	n	1.1	n	0.3	11.4	0.6	n	0.2	m	2.5
	South Africa	10.1	0.4	0.5	6.6	n	n	0.4	0.2	1.6	2.3	0.4	0.1	n	0.6	0.3	0.3	0.1	n	m	1.3

Note: The proportion of students abroad is based only on the total of students enrolled in countries reporting data to the OECD and UNESCO Institute for Statistics.

1. Excludes tertiary-type B programmes.
2. Excludes data for social advancement education.
3. Year of reference 2007.
4. Excludes private institutions.
5. Excludes advanced research programmes.
6. Excludes part-time students.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table C2.3. *(continued)*

Citizens studying abroad in tertiary education, by country of destination (2008)

Number of foreign students enrolled in tertiary education in a given country of destination as a percentage of all students enrolled abroad, based on head counts

The table shows for each country the proportion of students studying abroad in tertiary education in a given country of destination.

Reading the second column: 6.1% of Czech citizens enrolled in tertiary education abroad study in Austria, 15.9% of Italian citizens enrolled in tertiary education abroad study in Austria, etc.

Reading the first row: 2.9% of Australian citizens enrolled in tertiary education abroad study in France, 27.9% of Australian citizens enrolled in tertiary education abroad study in New Zealand, etc.

		Countries of destination																		
		OECD countries												Partner countries						
	Countries of origin	New Zealand	Norway	Poland	Portugal	Slovak Republic	Spain	Sweden	Switzerland	Turkey	United Kingdom	United States	Total OECD destinations	Brazil	Estonia	Israel	Russian Federation[4,5]	Slovenia	Total partner country destinations	Total all reporting destinations
		(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
OECD countries	Australia	27.9	0.4	0.2	0.2	n	0.2	0.9	0.8	0.4	15.8	30.3	95.8	m	n	m	0.1	n	4.2	100.0
	Austria	0.5	0.4	0.4	0.2	0.6	1.0	1.0	8.3	0.3	11.1	6.9	94.1	m	n	m	0.1	0.1	5.9	100.0
	Belgium	0.3	0.3	0.1	0.7	n	3.1	0.5	2.9	0.2	21.8	7.1	98.3	m	0.1	m	0.1	n	1.7	100.0
	Canada	1.4	0.2	0.8	0.2	n	0.2	0.3	0.7	n	11.1	64.4	97.8	m	n	m	n	n	2.2	100.0
	Chile	1.3	0.7	n	0.1	n	21.8	2.2	1.1	n	4.1	18.8	77.1	m	n	m	0.1	n	22.9	100.0
	Czech Republic	0.4	0.5	5.2	0.3	25.7	1.1	0.6	1.6	n	12.7	9.0	98.8	m	n	m	0.2	0.1	1.2	100.0
	Denmark	1.9	14.0	0.3	0.1	0.1	1.2	12.4	1.6	0.1	25.2	15.0	96.8	m	0.1	m	0.1	n	3.2	100.0
	Finland	0.5	3.2	0.1	0.1	n	1.0	31.6	1.3	n	17.8	7.2	85.4	m	5.9	m	0.6	n	14.6	100.0
	France	0.7	0.3	0.1	1.3	n	3.0	0.6	7.4	0.1	20.1	11.2	98.7	m	n	m	0.1	n	1.3	100.0
	Germany	1.8	0.8	0.5	0.3	0.2	1.9	1.4	11.6	0.4	14.4	9.4	97.9	m	n	m	0.2	n	2.1	100.0
	Greece	n	0.1	0.1	0.1	1.1	0.5	0.7	1.0	2.6	36.9	5.8	90.6	m	n	m	0.6	n	9.4	100.0
	Hungary	0.4	0.5	0.8	0.2	1.1	0.9	1.4	2.5	0.1	12.7	8.8	95.5	m	n	m	0.3	0.1	4.5	100.0
	Iceland	0.4	7.4	0.1	n	0.1	0.3	10.2	0.6	n	9.4	11.1	99.9	m	0.1	m	0.1	n	0.1	100.0
	Ireland	0.9	0.1	0.1	0.1	0.1	0.4	0.5	0.2	n	82.3	5.5	99.6	m	n	m	n	n	0.4	100.0
	Italy	0.2	0.3	0.1	0.5	0.1	8.4	0.8	11.6	0.1	13.2	8.3	98.0	m	n	m	0.1	0.2	2.0	100.0
	Japan	2.0	0.1	0.1	n	n	0.3	0.3	0.5	n	8.4	64.4	97.7	m	n	m	0.3	n	2.3	100.0
	Korea	n	n	n	n	n	0.1	0.1	0.2	n	3.5	59.9	97.1	m	n	m	0.6	n	2.9	100.0
	Luxembourg	n	n	n	0.5	n	0.2	0.1	3.7	n	10.8	0.6	99.8	m	n	m	n	n	0.2	100.0
	Mexico	0.3	0.2	n	0.1	n	12.4	0.4	0.6	n	4.6	51.9	93.1	m	n	m	0.2	n	6.9	100.0
	Netherlands	2.9	1.5	0.1	0.4	n	2.1	1.8	2.6	0.2	21.8	12.1	98.5	m	n	m	m	n	1.5	100.0
	New Zealand	a	0.2	0.2	n	n	0.1	0.6	0.5	n	11.9	24.0	97.4	m	n	m	n	n	2.6	100.0
	Norway	1.2	a	7.5	0.1	1.5	0.6	8.7	0.6	n	20.6	9.3	98.3	m	n	m	0.1	n	1.7	100.0
	Poland	0.1	0.6	a	0.4	0.2	2.0	1.5	1.3	n	22.2	7.1	98.4	m	n	m	0.1	n	1.6	100.0
	Portugal	0.1	0.3	0.5	a	0.1	18.7	0.7	7.8	n	19.0	6.1	97.9	m	n	m	n	n	2.1	100.0
	Slovak Republic	0.1	0.1	0.4	0.1	a	0.5	0.1	0.6	n	4.1	2.0	99.7	m	n	m	0.1	n	0.3	100.0
	Spain	0.2	0.7	0.4	2.5	0.1	a	1.3	6.1	n	23.0	14.7	98.7	m	n	m	0.1	n	1.3	100.0
	Sweden	1.0	8.3	4.7	0.1	0.3	1.3	a	1.8	n	20.7	21.3	96.7	m	0.1	m	0.2	n	3.3	100.0
	Switzerland	0.6	0.5	0.1	1.5	0.1	2.8	0.6	a	0.1	16.8	11.5	95.9	m	n	m	0.1	n	4.1	100.0
	Turkey	n	0.1	0.1	n	n	0.1	0.4	1.4	a	3.6	18.4	73.8	m	n	m	0.5	n	26.2	100.0
	United Kingdom	13.9	1.1	0.4	0.3	0.1	2.5	1.8	1.4	0.4	a	29.2	97.2	m	n	m	0.1	n	2.8	100.0
	United States	5.5	0.7	1.8	0.3	0.1	1.2	0.9	1.0	0.1	26.6	a	91.4	m	n	m	0.2	n	8.6	100.0
	Total from OECD countries	*1.7*	*0.7*	*0.6*	*0.3*	*0.4*	*2.3*	*1.3*	*3.4*	*0.2*	*14.9*	*24.2*	*94.9*	*m*	*0.1*	*m*	*m*	*n*	*5.1*	*100.0*
Partner countries	Brazil	0.6	0.3	0.1	10.6	n	8.8	0.4	1.3	n	4.6	27.5	87.3	a	n	m	0.4	n	12.7	100.0
	China	2.7	0.1	n	n	n	0.1	0.4	0.2	n	8.9	21.6	85.5	m	n	m	1.8	n	14.5	100.0
	Estonia	0.1	1.7	0.3	n	n	1.8	5.3	0.5	n	14.7	5.5	74.9	m	a	m	13.2	n	25.1	100.0
	India	2.9	0.1	0.2	n	n	n	0.4	0.2	n	14.0	51.2	93.7	m	n	m	2.3	n	6.3	100.0
	Indonesia	1.1	0.2	n	n	n	n	0.2	0.2	n	2.5	20.9	72.3	m	n	m	0.2	n	27.7	100.0
	Israel	0.2	0.1	0.2	n	0.8	0.7	0.2	0.4	0.1	3.6	17.8	57.9	m	n	a	2.4	n	42.1	100.0
	Russian Federation	0.8	1.5	0.8	0.2	0.1	1.4	1.0	1.3	0.9	4.5	8.3	63.1	m	2.0	m	a	n	36.9	100.0
	Slovenia	0.1	0.1	0.3	0.3	0.1	1.2	0.5	1.4	n	9.9	7.3	88.9	m	n	m	0.2	a	11.1	100.0
	South Africa	18.6	0.5	0.2	2.5	n	0.2	0.4	0.5	n	20.3	21.4	89.8	m	n	m	n	n	10.2	100.0

Note: The proportion of students abroad is based only on the total of students enrolled in countries reporting data to the OECD and UNESCO Institute for Statistics.

1. Excludes tertiary-type B programmes.
2. Excludes data for social advancement education.
3. Year of reference 2007.
4. Excludes private institutions.
5. Excludes advanced research programmes.
6. Excludes part-time students.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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C2

Table C2.4.

Distribution of international and foreign students in tertiary education, by level and type of tertiary education (2008)

		Tertiary-type B programmes	Tertiary-type A programmes	Advanced research programmes	Total tertiary programmes
		(1)	(2)	(3)	(4)
	International students, by level and type of tertiary education				
OECD countries	**Australia**	14.4	81.3	4.3	100.0
	Austria[1]	2.1	88.7	9.2	100.0
	Belgium[2]	31.1	61.9	7.0	100.0
	Canada[3, 4]	21.4	70.3	8.3	100.0
	Chile	32.7	63.6	3.7	100.0
	Czech Republic	m	m	m	m
	Denmark	17.2	78.4	4.4	100.0
	Finland	n	85.2	14.8	100.0
	Hungary	0.7	95.7	3.6	100.0
	Iceland	0.7	93.5	5.8	100.0
	Ireland	m	m	m	m
	Japan	21.6	67.8	10.5	100.0
	Luxembourg	m	m	m	m
	Mexico	m	m	m	m
	Netherlands[5]	n	100.0	m	100.0
	New Zealand	26.2	67.2	6.6	100.0
	Norway	0.5	93.6	5.9	100.0
	Portugal	0.2	86.9	12.9	100.0
	Slovak Republic	0.2	89.1	10.8	100.0
	Spain	34.6	42.3	23.1	100.0
	Sweden	0.5	82.0	17.5	100.0
	Switzerland[6]	n	73.7	26.3	100.0
	United Kingdom	9.0	81.1	10.0	100.0
	United States	6.9	72.4	20.7	100.0
Partner countries	**Brazil**	m	m	m	m
	Estonia	6.0	86.3	7.7	100.0
	Israel	m	m	m	m
	Slovenia	15.4	76.1	8.4	100.0
	Foreign students, by level and type of tertiary education[7]				
OECD countries	**France**	9.2	79.4	11.5	100.0
	Germany[5]	4.9	95.1	m	100.0
	Greece[5]	40.3	59.7	m	100.0
	Italy	n	95.4	4.6	100.0
	Korea	11.4	80.6	8.0	100.0
	Poland	n	94.4	5.6	100.0
	Turkey	4.7	90.6	4.7	100.0
Partner country	**Russian Federation**[4, 5]	5.3	94.7	m	100.0

1. Based on the number of registrations, not head-counts.
2. Excludes data for social advancement education.
3. Year of reference 2007.
4. Excludes private institutions.
5. Excludes advanced research programmes.
6. Excludes tertiary-type B programmes.
7. Foreign students are defined on the basis of their country of citizenship, these data are not comparable with data on international students and are therefore presented separately in the table.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table C2.5.

Distribution of international and foreign students in tertiary education, by field of education (2008)

		Agriculture	Education	Engineering, manufacturing and construction	Health and welfare	Humanities and arts	Sciences	Services	Social sciences, business and law	Not known or unspecified	Total all fields of education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	International students, by field of education										
OECD countries	**Australia**	0.8	2.8	10.3	9.5	6.6	12.3	1.7	55.8	0.1	100.0
	Austria[1]	2.1	4.9	13.2	9.7	19.3	11.5	1.5	37.4	0.4	100.0
	Belgium[2]	6.9	3.7	6.4	33.8	13.8	6.1	2.1	19.8	7.3	100.0
	Canada[3]	1.0	1.6	14.9	6.1	8.8	16.3	1.5	40.8	8.9	100.0
	Chile	3.6	7.0	12.8	14.1	8.1	9.2	5.9	39.2	0.1	100.0
	Denmark	2.4	3.3	19.2	22.5	8.0	9.4	0.2	34.9	n	100.0
	Finland[1]	2.0	1.8	30.1	9.0	12.5	11.2	4.9	28.6	n	100.0
	Germany[1, 4]	1.6	4.9	20.4	6.1	21.2	16.9	1.7	26.9	0.2	100.0
	Greece	m	m	m	m	m	m	m	m	m	m
	Hungary	10.2	4.7	9.0	35.9	10.2	6.9	2.6	20.5	n	100.0
	Iceland	0.8	5.1	7.1	3.6	41.7	17.2	0.8	23.6	n	100.0
	Ireland	m	m	m	m	m	m	m	m	m	m
	Japan	2.4	2.4	14.7	2.1	24.5	1.3	2.2	40.1	10.3	100.0
	Korea	m	m	m	m	m	m	m	m	n	m
	Luxembourg	m	m	m	m	m	m	m	m	m	m
	Mexico	m	m	m	m	m	m	m	m	m	m
	Netherlands[4]	1.5	5.7	5.4	16.9	11.8	5.0	6.6	46.4	0.8	100.0
	New Zealand[4]	1.4	4.0	7.5	7.0	14.5	20.5	3.2	41.8	0.2	100.0
	Norway	1.2	5.6	4.4	8.5	21.4	14.6	3.2	33.5	7.6	100.0
	Portugal	1.4	3.8	19.4	8.8	9.0	6.9	7.0	43.7	n	100.0
	Spain[1, 4]	1.1	3.5	7.7	33.1	14.1	6.6	3.7	30.0	n	100.0
	Sweden	0.9	4.6	33.2	9.9	12.1	16.0	1.6	21.5	0.1	100.0
	Switzerland[1]	0.8	3.8	16.0	7.4	16.7	16.5	2.1	34.7	2.1	100.0
	United Kingdom	0.9	3.3	14.7	9.3	13.9	13.4	2.1	41.1	1.3	100.0
	United States	0.4	3.3	16.6	5.4	11.6	19.7	1.4	29.4	12.2	100.0
Partner countries	**Brazil**	m	m	m	m	m	m	m	m	m	m
	Estonia	9.6	1.2	2.3	8.9	18.7	3.7	1.3	54.4	n	100.0
	Israel	m	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m	m
	Slovenia	2.5	5.4	18.7	11.4	19.0	9.7	4.2	29.2	n	100.0
	Foreign students, by field of education[5]										
OECD countries	**Czech Republic**	2.4	4.9	11.4	16.9	8.2	14.1	2.9	39.2	n	100.0
	France	0.3	1.0	12.7	8.6	19.7	16.2	1.4	40.1	0.1	100.0
	Italy	1.5	2.1	15.6	19.6	16.6	5.4	1.7	32.2	5.3	100.0
	Poland	0.4	3.1	4.2	29.7	17.3	5.3	3.3	36.6	n	100.0
	Slovak Republic	4.6	13.0	14.6	34.6	8.6	3.1	3.8	17.6	a	100.0
	Turkey	2.5	9.7	14.9	15.1	10.8	8.5	3.3	35.1	n	100.0

1. Excludes tertiary-type B programmes.
2. Excludes data for social advancement education.
3. Year of reference 2007.
4. Excludes advanced research programmes.
5. Foreign students are defined on the basis of their country of citizenship; these data are not comparable with data on international students and are therefore presented separately in the table and chart.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table C2.6.

Trends in the number of foreign students enrolled outside their country of origin (2000 to 2008)

Number of foreign students enrolled in tertiary education outside their country of origin, head counts

	Number of foreign students								
	2008	2007	2006	2005	2004	2003	2002	2001	2000
Foreign students enrolled worldwide	3 342 910	3 021 106	2 924 679	2 619 062	2 529 221	2 345 907	2 143 117	1 868 017	1 804 261
Foreign students enrolled in OECD countries	2 645 864	2 522 757	2 440 657	2 370 897	2 270 346	2 090 474	1 902 749	1 646 153	1 587 221

	Index of change (2008)							
	2007 = 100	2006 = 100	2005 = 100	2004 = 100	2003 = 100	2002 = 100	2001 = 100	2000 = 100
Foreign students enrolled worldwide	111	114	128	132	142	156	179	185
Foreign students enrolled in OECD countries	105	108	112	117	127	139	161	167

Note: Figures are based on the number of foreign students enrolled in OECD and partner countries reporting data to the OECD and UNESCO Institute for Statistics, in order to provide a global picture of foreign students worldwide. The coverage of these reporting countries has evolved over time, therefore missing data have been imputed wherever necessary to ensure the comparability of time series over time. Given the inclusion of UNESCO data for partner countries and the imputation of missing data, the estimates of the number of foreign students may differ from those published in previous editions of *Education at a Glance*.

Source: OECD and UNESCO Institute for Statistics for most data on non-OECD countries. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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INDICATOR C3

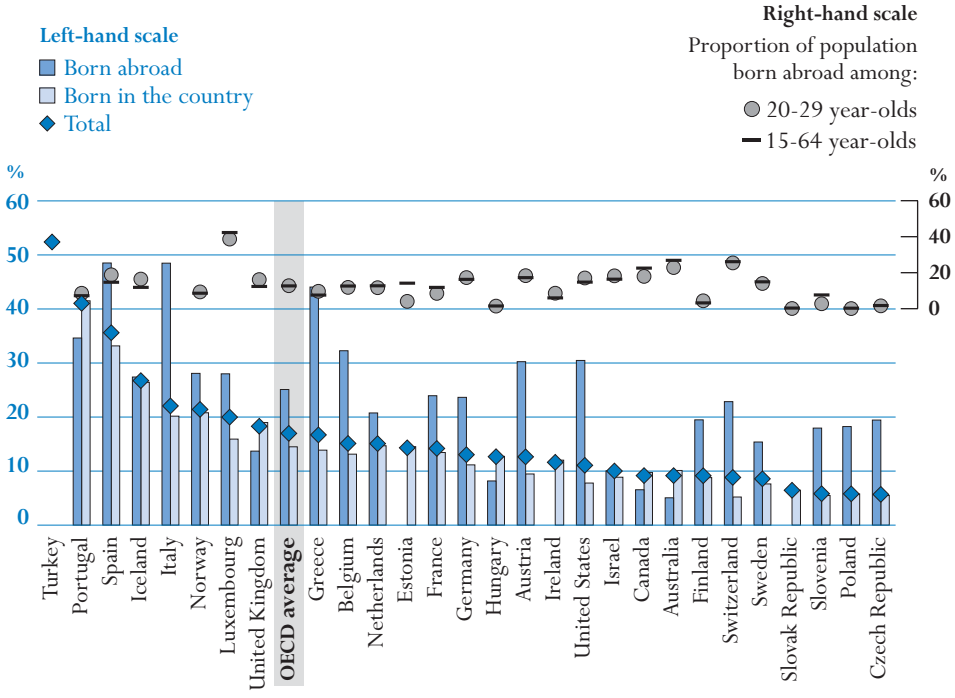
HOW SUCCESSFUL ARE STUDENTS IN MOVING FROM EDUCATION TO WORK?

This indicator shows the number of years young adults are expected to spend in education and how many continue their education beyond compulsory schooling. Once students have completed their initial education, they may face difficulties entering the labour market. To better understand the interactions between school and work, this indicator analyses unemployment, non-employment, temporary and part-time work, as well as educational attainment and occupation matches.

Key results

Chart C3.1. Proportion of 20-24 year-olds who are not in education and have not attained upper secondary education, by migrant status (2007)

The proportion of 20-24 year-olds who are not in education and have not attained upper secondary education is typically higher for individuals born abroad than for those born in the country. On average across OECD countries, this difference is nearly 11 percentage points but variations among countries are large. In Austria, the Czech Republic, Greece, Poland, Switzerland, the United States and the partner country Slovenia, foreign-born 20-24 year-olds are three times more likely not to be in education and not to have attained upper secondary education. Immigrants do better than natives in Australia, Canada, Hungary, Portugal and the United Kingdom, where foreign-born 20-24 year-olds have an advantage in terms of upper secondary attainment over those born in the country. For countries with a large immigrant population like Australia and Canada, the foreign-born may influence overall secondary attainment levels.



Countries are ranked in descending order of the percentage of 20-24 year-olds who are not in education and have not attained upper secondary education.

Source: OECD, Network on Labour Market, Economic and Social Outcomes of Learning (LSO), special data collection, Monitoring Transition Systems Working Group. Table C3.5. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- On average across OECD countries, a 15-year-old in 2008 can expect to spend about 6.8 additional years in formal education. In addition, he/she can expect to hold a job for 6.1 of the subsequent 15 years, to be unemployed for a total of 0.7 year and to be out of the labour force for 1.2 years, *i.e.* neither in education nor seeking work.

- On average, completion of upper secondary education reduces unemployment among 20-24 year-olds by 8.3 percentage points and among 25-29 year-olds by 5.3 percentage points. The lack of an upper secondary qualification is clearly a serious impediment to finding employment. On average completion of tertiary education reduces unemployment among 25-29 year-olds by 0.9 percentage point. A tertiary qualification further increases the likelihood of finding employment.

- The reference year 2008 for this edition does not yet take into account effects of the global recession. Preliminary data for 2009 (see Box C3.1) suggest that higher education provides some protection against unemployment. Increased participation in education has also kept unemployment rates down as students preferred remaining in education rather than to face difficult labour market conditions.

- The disadvantage at the upper secondary level of education for those born abroad disappears in tertiary education. This indicates that some immigrants do well but that parts of the immigrant population are at risk in many countries. Such two-tier results are particularly pronounced in Austria, the Czech Republic, Luxembourg and Poland.

- The proportion of 15-29 year-old non-students in employment who work full-time signals strong labour market links in most countries. On average, 85% of those with below upper secondary education, 89% with upper secondary and post-secondary non-tertiary education, and 91% of those with tertiary education working full-time. Education is particularly important for scaling down differences between male and female full-time work.

- Few tertiary-educated 25-29 year-olds work below their skill levels in their first labour market years. On average, 23% worked in jobs below their professional level in 2007, a figure similar to 2003 (21%). Tertiary-educated 25-29 year-olds in Canada, Ireland, New Zealand, Spain, the United States and the partner country Israel have more difficulty finding a job that matches their educational level (more than 30% work below the professional level). Less than 10% find themselves in this situation in the Czech Republic and Luxembourg.

Policy context

All OECD countries are experiencing rapid social and economic changes which make the transition to working life more uncertain for younger individuals. In some OECD countries, education and work are largely consecutive, while in others they may be concurrent. The ways in which education and work are combined can significantly affect the transition process.

The transition from education to work is a complex process which depends not only on the length and quality of the schooling received but also on a country's general labour market and economic conditions. High general unemployment rates make the transition substantially more difficult. Moreover, those entering the labour market for the first time typically experience higher unemployment rates than those with more work experience.

Entering the labour market can often be difficult for individuals even if they find work. Young individuals sometimes have to fill vacancies below their skill (educational) level, take temporary jobs, or work less than they would like in order to gain a foothold in the labour market.

General labour market conditions also influence the schooling decisions of younger individuals: when labour markets are poor, younger individuals tend to increase enrolment in education and remain in education longer; the opposite applies when labour markets are good. High unemployment rates drive down the opportunity costs of education. Moreover, by continuing their education individuals decrease their risk of being stranded with outdated skills once the labour market picks up again.

National education systems thus play a crucial role in accommodating increasing numbers of students in adverse economic times. When job prospects diminish, investments in education also make good sense from a public perspective. In these circumstances, public investments in education can be a sensible way to counterbalance inactivity and to invest in future economic growth.

Evidence and explanations

Young adults represent the principal source of labour with new skills. In most OECD countries, education policy seeks to encourage youth to complete at least upper secondary education. These efforts are readily illustrated by the number of additional years in education a young individual can expect beyond compulsory schooling (age 15).

On average, a 15-year-old in 2008 can expect to remain in school for an additional 6.8 years (Table C3.1a). Some will continue longer than others. In Denmark, Finland, Iceland, the Netherlands and the partner country Slovenia, a 15-year-old can expect to spend an additional eight years or more in education. By contrast, a 15-year-old in Mexico and Turkey can expect, on average, to spend five or fewer years in education.

The average overall number of expected years in education is slightly higher for females (6.9 years) than for males (6.7 years). In all countries except Australia, Germany, Japan, Mexico, the Netherlands, New Zealand, Switzerland and Turkey, females spend more years in education than males. In Turkey, female students are likely to spend nearly one year less in education than their male counterparts; in Italy, Norway, Sweden and the partner countries Estonia and Slovenia, the opposite applies.

On average, a 15-year-old can expect to spend the subsequent 15 years as follows: 6.8 years in education, 6.1 years holding a job, to be unemployed for a total of 0.7 year and to be out of the labour force for 1.2 years, *i.e.* neither in education nor seeking work (Table C3.1a).

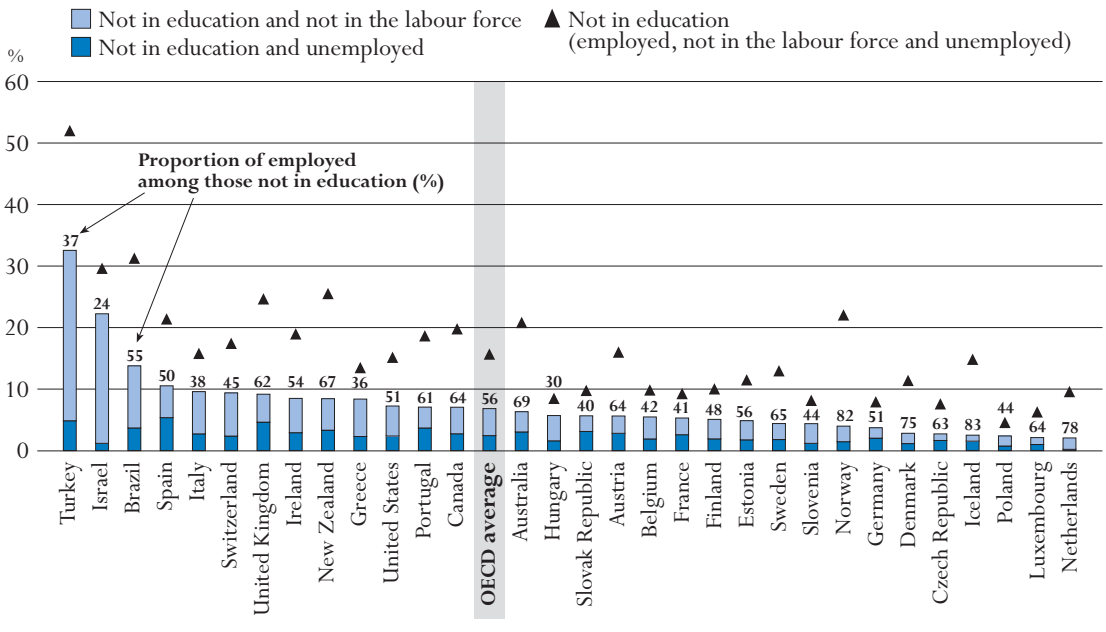
Between the ages of 15 and 29, males are likely to have worked 1.3 years longer than females. This reflects the fact that females are more likely to be outside employment when not in education. Young males can expect to spend 1.4 years not in education and not employed and young females 2.4 years. In Mexico, Turkey and the partner country Brazil, there is a much stronger tendency for young females to spend time out of the educational system and not working (unemployed or not in the labour force). In Canada, Denmark, Ireland, Japan, Norway, Sweden, Switzerland and the partner country Israel, young males and young females differ by less than half a year on this measure (Table C3.1a).

The average cumulative duration of unemployment varies significantly among countries, owing to differences in general unemployment rates as well as differences in the duration of education. The average duration of unemployment is less than six months in Australia, Austria, the Czech Republic, Denmark, Iceland, Japan, Mexico, the Netherlands, New Zealand, Norway, Switzerland and the partner countries Estonia and Israel, but over a year in Greece, Portugal, the Slovak Republic, Spain and Turkey (Table C3.1a for 15-29 year-olds).

Unemployment and non-employment among young non-students

The majority of 15-19 year-olds are still in education (84.6%). Those who are not in education (15.4%) are in many instances unemployed (2.4%) or out of the labour force (4.4%) or employed (8.6%). Their situation varies substantially, from 2% (respectively 0.2% and 1.9%) unemployed or not in the labour force in the Netherlands to 33% (respectively 4.9% and 27.7% not in the labour force) in Turkey. On average among OECD countries, close to half of the 15-19 year-olds not in education were not in the labour force or were unemployed (Chart C3.2).

Chart C3.2. Percentage of 15-19 year-olds not in education and unemployed or not in the labour force (2008)



Countries are ranked in descending order of the percentage of 15-19 year-olds not in education and unemployed or not in the labour force.

Source: OECD. Table C3.2a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310453

Since many jobs in the current labour market require ever-higher general skill levels, persons with low attainment are often penalised. Some countries are better able than others to provide employment for young adults with relatively low levels of educational attainment (indicated by the difference between the bars and the triangles). In Denmark, Iceland, the Netherlands and Norway, 70% or more of those not in education find employment (Chart C3.2).

The 15-19 year-olds not currently engaged in employment, education or training (NEET) are at particular risk as they receive little or no support from the welfare system in most countries. The proportion of 15-19 year-olds not in education and not in the labour force or unemployed ranges over 32.6% in Turkey to 2.1% in the Netherlands. On average across OECD countries, 6.8% of this cohort is not in education and not in the labour force (Table C3.2a).

Unemployment rates among young non-students differ according to their level of educational attainment, an indication of the degree to which further education improves their economic opportunities. On average, completing upper secondary education reduces the unemployment rate among 20-24 year old non-students by 8.3 percentage points. Since it has become the norm in most OECD countries to complete upper secondary education (see Indicator A2), those who do not do so are much more likely to have difficulty finding employment when they enter the labour market. In Belgium, France, Ireland, Luxembourg, the Slovak Republic, Spain and the United Kingdom, the unemployment rate for 20-24 year old non-students with less than upper secondary education attainment is 15% or more (Table C3.3).

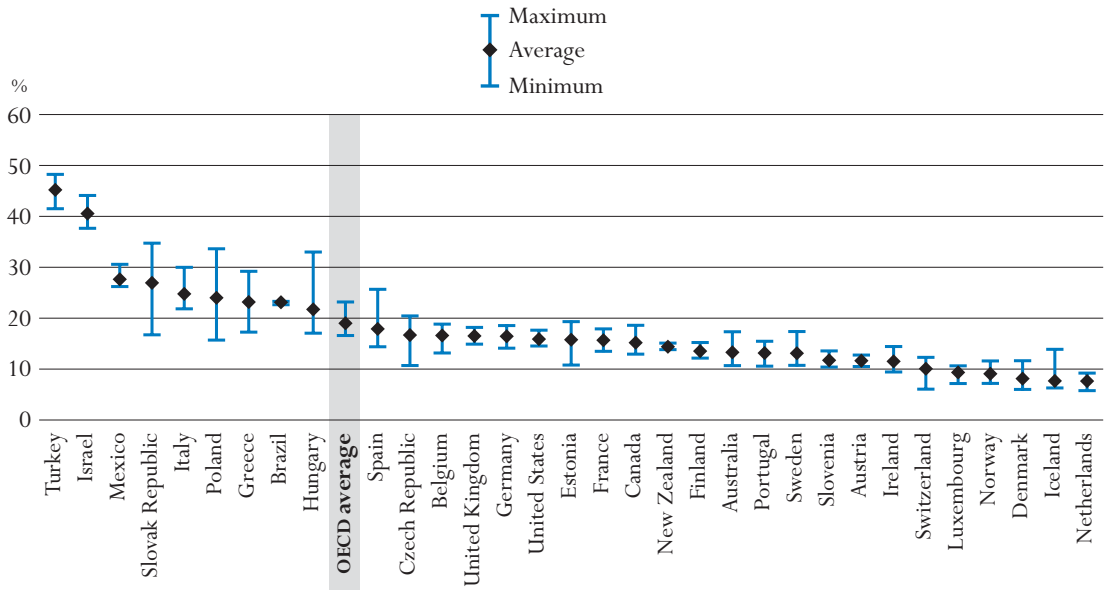
In 13 OECD countries and one partner country, 5% or more of 25-29 year-old upper secondary graduates are unemployed. In a few OECD countries, even young adults who have completed tertiary education face considerable risk of unemployment when they enter the labour market. In Greece, Portugal and Turkey more than 10% of 25-29 year-olds with tertiary education are unemployed. In these countries, and in Italy, New Zealand and the partner country Slovenia, unemployment rates among 25-29 year-old upper secondary and post-secondary non-tertiary graduates who are not in education, are lower than for those with tertiary qualifications in this age cohort.

Variation in non-employment among non-students

When the labour market deteriorates, those making the transition from school to work are often the first to encounter difficulties. In such circumstances employers shed workers and it is often virtually impossible for young individuals to get a foothold in the labour market, as they compete with more experienced workers for jobs. Because of the expansion of upper secondary education over the years, few 15-19 year-olds are outside the education system. In 2008, less than 16% were not in education, and 7.0% were not in education and not employed (Table C3.4a).

For those aged 15 to 29, the most vulnerable age groups in difficult economic times are those past the age of upper secondary education. In 2008, the non-employment rate among non students was twice as high for 20-24 year-olds (16.5%) and 25-29 year-olds (14.7%) as for 15-19 year-olds (7%) (Table C3.4a). Family-raising is more likely to occur in these latter years 20-29 than in the 15-19 years. Not only are non-employment rates among non-students higher among 20-29 year-olds, this group is also generally more sensitive to shifts in demand for labour. To illustrate this risk, Chart C3.3 shows the lowest, highest and average proportion of the 20-24 year-old cohort not in education and not employed between 1997 and 2008.

Chart C3.3. The highest and lowest proportions of the 20-24 year-old cohort not in education and not employed between 1997 and 2008



Countries are ranked in descending order of the proportion of 20-24 year-olds not in education and not employed (on average between 1997 and 2008).

Source: OECD. Table C3.4a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Over the past 12 years, rates for those not in education and not employed have varied by 10 percentage points or more in the Czech Republic, Greece, Hungary, Poland, the Slovak Republic and Spain, indicating that 20-24 year-olds have experienced very different labour market conditions. Although the proportion of non-employed youth has generally been lower in Australia, Iceland, Denmark, Sweden, Switzerland and the partner country Estonia, the non-employment rates among non-students have varied substantially relative to the mean in these countries as well.

Educational attainment and job matches among the young and immigrants

Most 20-24 year-olds have an upper secondary education (83%). 15% of those born in the country and 25% of those born abroad were not in school or have not completed an upper secondary education in 2007. In some countries the shortcomings of those born abroad are linked to the immigration of individuals with less education and with little or no intention of continuing their education. In terms of upper secondary education, immigrants do less well in Austria, Greece, Italy and the United States where the difference with those born in the country is 20 percentage points or more (Table C3.5).

Some immigrants do well but that parts of the immigrant population are at risk in many countries. The disadvantage at upper secondary level for those born abroad disappears in tertiary education. This shows that the presence of these two-tier results is particularly pronounced in Austria, the Czech Republic, Luxembourg and Poland, where a disadvantage of immigrants at the upper secondary education drops by over 20 percentage points at the tertiary level of education.

C3

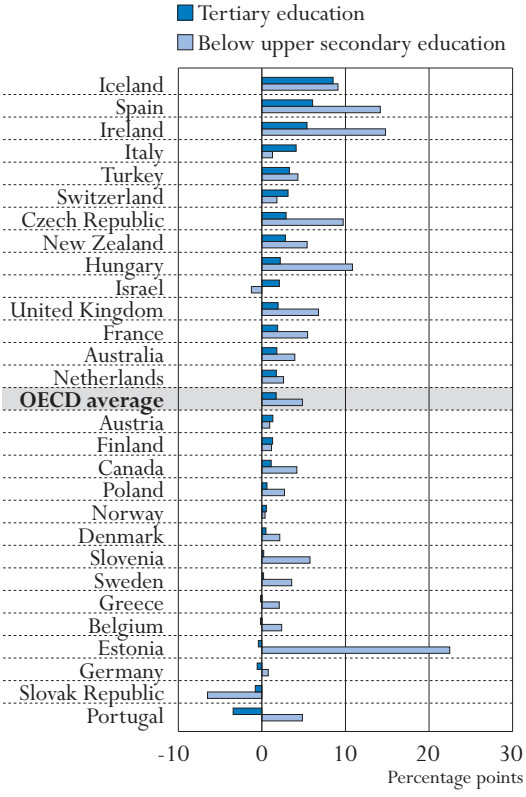
Box C3.1 Youth and economic crisis

The economic crisis has affected labour markets in a number of ways. Part-time work has increased, average actual hours worked by the full-time employed have decreased, and the number of employees with temporary contracts has decreased in European countries (Hijman, 2009). While the overall unemployment rate among the OECD countries increased by 2.0 percentage points between 2008 and 2009 (from 5.0% to 7.0%), the extent of the increase varies with age and level of education.

The youth population has been the most affected. The unemployment rate for 15-29 year-olds in the OECD countries increased on average by 3.3 percentage points from 10.2% to 13.5% (OECD, 2010b). As a result of the economic crisis, the labour market is becoming more selective and the lack of relevant skills/experience brings a higher risk of unemployment for recent entrants. The extent of risk varies with the level of education.

Among OECD countries (excluding Chile, Japan, Korea, Mexico and the United States), the lowest increase in the unemployment rate between 2008 and 2009 has been among those with higher levels of education. It increased by 4.8 percentage points for those who did not complete upper secondary education, and by 1.7 percentage points for those who completed tertiary education. Workers with the lowest educational attainment are more likely to be in sectors such as construction or the automobile industry which have been severely affected by the crisis (Hijman, 2009).

Change in unemployment rate for the 15-29 year-old population (2008-09)



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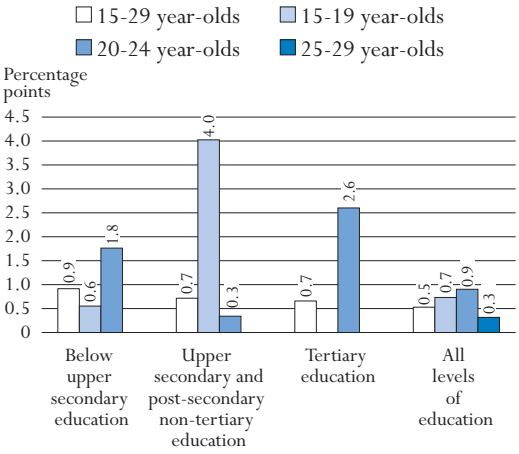
Change between 2008 and 2009 in population participating in education, by completed levels of education



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Participation in education should mitigate the effect of the crisis on 15-29 year-olds. In a crisis context, returning to or remaining in education may be considered alternatives to the labour maket. Between 2008 and 2009, the proportion of 15-29 year-olds among OECD countries (excluding Chile, Japan, Korea, Luxembourg, Mexico and the United States), in education overall increased by 0.5 percentage point, among 15-19 year-olds by 0.7 percentage point, among 20-24 year-olds by 0.9 percentage point and among 25-29 year-olds by 0.3 percentage point. The largest increases among 15-19 year-olds with completed upper secondary education and among 20-24 year-olds who had completed tertiary education were 4.0 and 2.6 percentage points, respectively, suggesting that increasing participation in education is more likely the result of remaining in education than a return to education.

Hijman (2009), "The Impact of the Crisis on Employment", *Statistics in Focus* 79/2009, Eurostat.

OECD (2010b), *OECD Employment Outlook 2010,* OECD Publishing.

Most young highly-educated individuals find a skilled job when entering the labour market (Table C3.5). Across OECD countries, 71% of 25-29 year-olds with a tertiary education find employment as professionals (ISCO 2) or technicians and associate professionals (ISCO 3), a proportion similar to that in 2003. Other young tertiary graduates will work as legislators, senior officials or managers (ISCO 1), a category that is not covered by this analysis. Note that the proportion working in these occupations (ISCO 1) can be derived by comparing Tables C3.5 and C3.7 (see methodology section).

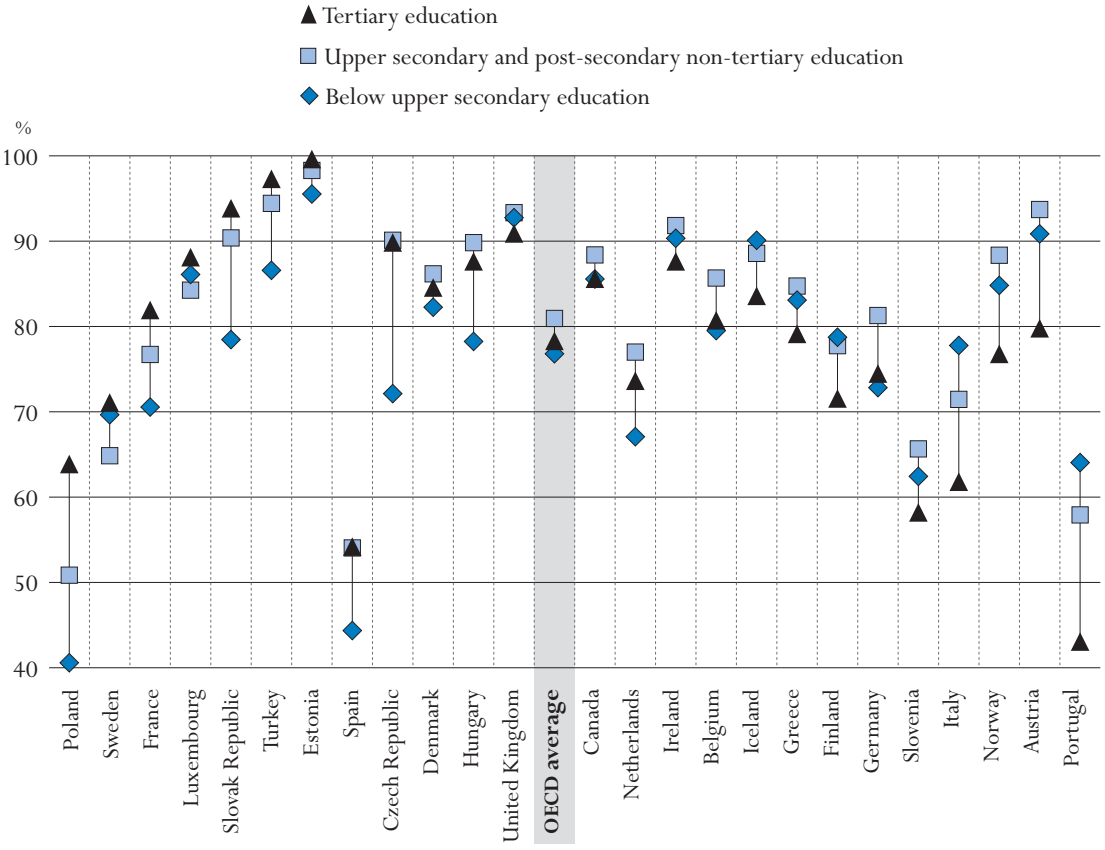
Immigrants are at a disadvantage in finding a job that matches their skill level compared with those born in the country. On average, 64% of the foreign-born with tertiary education find skilled jobs compared to 72% of those born in the country. There is a link, however, between immigrants' demand for tertiary education and the chance of obtaining a skilled job, particularly in relation to the native population. In Belgium, Greece, Italy, Portugal and Spain, immigrants have at least at a 20 percentage point disadvantage in finding a job at the professional levels compared with those born in the country. At the same time, the demand for tertiary education among immigrants in these countries is among the lowest among OECD countries.

Labour market attachment of young adults

Apart from finding a job that matches their skills, young individuals sometimes work under less favourable conditions at the start of their career. Table C3.6 presents the proportion of 15-29 year-old non-students in permanent jobs, the proportion working full-time and the proportion of those involuntarily in part-time work. Most young individuals find permanent employment. Across OECD countries 77% of those with below upper secondary education, 81% with upper secondary and post-secondary non-tertiary education, and 79% of those with tertiary education have a permanent job.

Chart C3.4 shows the ratio of 15-29 year-old non-students working in permanent jobs to all 15-29 year-old non-students working, by attainment levels. There are generally large differences among countries in the prevalence of permanent jobs for young individuals, with some, albeit smaller, differences in attainment levels across countries. Compared to individuals with upper secondary and post-secondary non-tertiary education, those with a tertiary education have at least a 5% advantage in this respect in France, Poland and Sweden, and a disadvantage of 10% or more in Austria, Norway and Portugal.

Chart C3.4. Ratio of 15-29 year-old non-students working in permanent jobs to all 15-29 year-old non-students working, by level of educational attainment (2007)



Countries are ranked in descending order of the difference between the proportion of 15-29 year-old non-students working in permanent jobs with an upper secondary or post-secondary non-tertiary level of education and those with tertiary education.
Source: OECD, LSO Network, special data collection, Monitoring Transition Systems Working Group. Table C3.6.
See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310453

The proportion of 15-29 year-old non-students in employment who work full-time signals strong labour market links. Overall, 85% of those with below upper secondary education, 89% with upper secondary and post-secondary non-tertiary education, and 91% of those with tertiary education working full-time. Education is particularly important for evening out differences between male and female full-time work. For those with less than upper secondary education there is a 20 percentage point difference between genders, with upper secondary and post-secondary non-tertiary education the differences is 14 percentage points, and the difference falls to 8 percentage points at the tertiary level (Table C3.6)

Both the proportion in permanent jobs and the proportion of those employed in full-time work suggest that the labour market attachment of young adults was strong in most countries before the economic crisis. The fact that tertiary-educated individuals fare well in comparison with their peers with less education reinforces the benefits of higher education, considering their later graduation age and short time in the labour market.

Relatively few young employed individuals are not in full-time work (the OECD average ranges from 15% for below upper secondary education to 9% for tertiary education). Among those in part-time work, less than half are working part-time involuntarily (Table C3.6). Those who have not completed upper secondary education are more prone to be in part-time work and somewhat more likely to be in this situation involuntarily. In Austria, the Netherlands, Norway and Sweden, 20% or more of 15-29 year-old non-students are employed in part-time work and 30% of those are working part-time despite a preference for full-time work.

Entry level jobs and occupational mismatches

Young individuals sometimes have to enter the labour market below their acquired skill level to find a job and to gain experience. Occupational matches are generally more difficult for those with tertiary education because of the narrower range of jobs and the specificity and complexity of the work at high skill levels.

Table C3.7 provides information on education and occupational mismatches for 25-29 year-old workers not in education. It shows the proportion of workers with upper secondary education working in elementary occupations (ISCO 9) and the proportion of those with a tertiary degree working below the professional level (*i.e.* at ISCO 4-9). On average across OECD countries 7% of individuals with upper secondary education work in elementary occupations. The figure is 10% or more in Belgium, Canada, Ireland, Spain and the United Kingdom.

The mismatch for tertiary-educated individuals is higher, partly because of the short time since graduation. Individuals with upper secondary education have typically had an additional four to five years to find a job that matches their qualification. Across OECD countries, 23% of tertiary-educated individuals work in jobs below the professional level (21% in 2003). Young tertiary-educated individuals in Canada, Ireland, New Zealand, Spain, the United States and the partner country Israel have more difficulties finding a job that matches their educational level (more than 30% work in ISCO occupational categories 4-9). Like New Zealand, those countries may have higher levels of graduates travelling overseas after graduating. Those graduates would therefore be more likely to be working in 'mismatched' jobs initially in order to fund their travel. Many will settle into more matched professions after the return from their travel. Less than 10% are in this situation in the Czech Republic and Luxembourg.

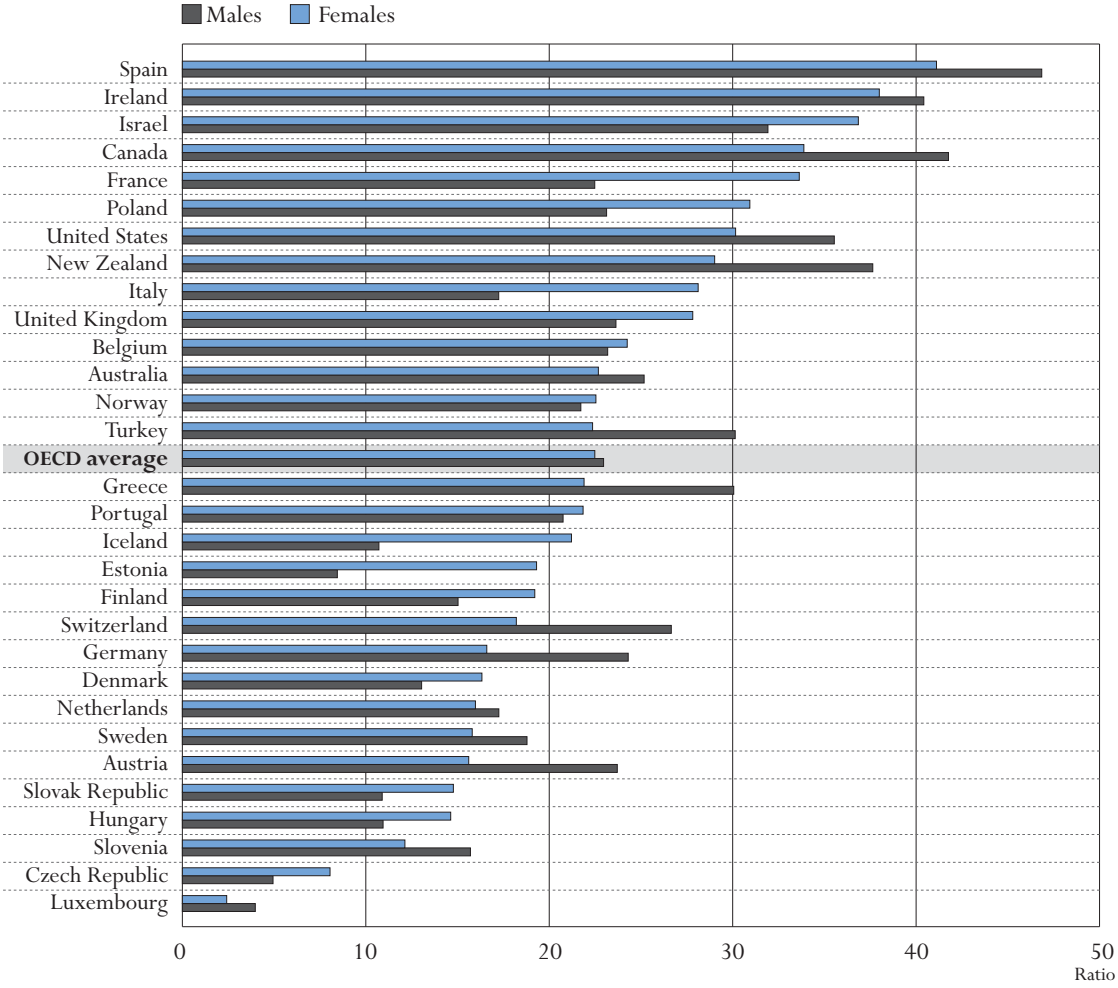
Chart C3.5 presents educational and occupational mismatches for males and females. It shows the proportion of 25-29 year-old workers not in education with a tertiary education degree who are working below the professional level (*i.e.* at ISCO 4-9). There are large differences among countries in how well the tertiary-educated are matched to skilled jobs. Less than 3% of females work below the professional level in Luxembourg while 47% of males do so in Spain.

Overall females and males show little difference in terms of finding a skilled job. On average across OECD countries 22% of females and 23% of males work below the professional level in their first years in the labour market. Females have a better chance to find a professional job than males in Austria, Canada, Germany, Greece, New Zealand, Switzerland and Turkey, where the difference is 8 percentage points or more. Females are more likely than males to work below their skill level in France, Iceland, Italy and the partner country Estonia where the gender difference is 10 percentage points or more.

C3

Chart C3.5. Education and occupational mismatches between young males and females (2007)

Ratio of 25-29 year-old workers not in education with a tertiary-level degree working at skill levels 1 or 2 (ISCO 4-9) to all 25-29 year-old workers not in education with a tertiary degree



Countries are ranked in descending order of the proportion of 25-29 year-old female workers not in education with a tertiary degree working at skill levels 1 or 2 (ISCO 4-9) to all 25-29 year-old workers not in education with a tertiary degree.
Source: OECD. Table C3.7. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Definitions and methodologies

Data for this indicator are collected as part of the annual OECD Labour Force Survey (for certain European countries the data are from the annual European Labour Force Survey; see Annex 3) and usually refer to the first quarter, or the average of the first three months of the calendar year, thereby excluding summer employment. The labour force status categories shown in this indicator are defined according to the International Labour Organization (ILO) guidelines, with one exception. For the purposes of this indicator, persons in work-study programmes (see Annex 3) have been classified separately as being in education and employed, without reference to their ILO labour force status during the survey reference week. This is because they may not necessarily be in the

work component of their programmes during the survey reference week and may therefore not count as being employed at that point. The category *other employed* includes individuals employed according to the ILO definition, but excludes those attending work-study programmes who are already counted as employed. Finally, the category *not in the labour force* includes individuals who are not working and who are not unemployed, *i.e.* individuals who are not looking for a job.

The unemployment-to-population and the employment-to-population ratios are calculated by dividing the total number of individuals unemployed or employed by the number of individuals in that population.

The data for Tables C3.5, C3.6 and C3.7 were collected by the Monitoring Transition Systems working group, LSO Network in 2008. The data mainly refer to the national labour force surveys for the first quarter of the years 2003 and 2007. Eurostat has provided data from the EU-LFS for countries in the European Statistical System. In a few cases the Eurostat data have been replaced by national data. The matching of tertiary educated individuals to occupations in Tables C3.5 and C3.7 are calculated the same way. To derive the overall proportion of tertiary educated working in ISCO 1 occupations add column 9 in Table C3.5 and column 6 in Table C3.7. ISCO 1 occupations consititutes the difference to arrive at 100 percent. For further information about data sources and the ISCO classification see Annex 3.

Further references

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310453

- ***Table C3.1b. Trends in expected years in education and not in education for 15-to-29 year-olds (1998-2008), by gender***
- ***Table C3.2b. Percentage of young males in education and not in education, by age group (2008)***
- ***Table C3.2c. Percentage of young females in education and not in education, by age group (2008)***
- ***Table C3.4b. Trends in the percentage of young males in education and not in education (1995, 1997-2008)***
- ***Table C3.4c. Trends in the percentage of young females in education and not in education (1995, 1997-2008)***

Table C3.1a.

Expected years in education and not in education for 15-29 year-olds (2008)

By gender and work status

		Expected years in education			Expected years not in education			
		Not employed	Employed (including work-study programmes)	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries								
Australia	Males	2.9	4.0	6.9	7.1	0.5	0.5	8.1
	Females	2.9	3.8	6.7	6.2	0.4	1.7	8.3
	M + F	2.9	3.9	6.8	6.7	0.5	1.1	8.2
Austria	Males	3.6	2.6	6.3	7.4	0.6	0.7	8.7
	Females	4.2	2.3	6.5	6.7	0.5	1.3	8.5
	M + F	3.9	2.5	6.4	7.1	0.5	1.0	8.6
Belgium	Males	6.2	0.6	6.8	6.7	0.9	0.7	8.2
	Females	6.4	0.6	7.0	5.9	0.8	1.3	8.0
	M + F	6.3	0.6	6.9	6.3	0.9	1.0	8.1
Canada	Males	3.8	2.5	6.3	7.1	0.8	0.8	8.7
	Females	3.6	3.4	6.9	6.2	0.5	1.3	8.1
	M + F	3.7	2.9	6.6	6.7	0.7	1.1	8.4
Czech Republic	Males	5.2	1.5	6.7	7.5	0.5	0.3	8.3
	Females	6.1	1.2	7.3	5.2	0.4	2.2	7.7
	M + F	5.6	1.4	7.0	6.4	0.4	1.2	8.0
Denmark	Males	3.5	4.6	8.1	6.1	0.3	0.4	6.9
	Females	3.9	4.9	8.7	5.2	0.3	0.8	6.3
	M + F	3.7	4.8	8.4	5.7	0.3	0.6	6.6
Finland	Males	5.6	2.5	8.1	5.7	0.6	0.6	6.9
	Females	5.7	3.1	8.8	4.4	0.6	1.2	6.2
	M + F	5.6	2.8	8.4	5.1	0.6	0.9	6.6
France	Males	5.7	1.5	7.2	6.2	1.1	0.5	7.8
	Females	6.1	1.4	7.5	5.4	0.8	1.3	7.5
	M + F	5.9	1.4	7.4	5.8	1.0	0.9	7.6
Germany	Males	4.7	3.4	8.1	5.6	1.0	0.4	6.9
	Females	4.7	2.9	7.6	5.3	0.6	1.5	7.4
	M + F	4.7	3.2	7.8	5.4	0.8	0.9	7.2
Greece	Males	5.8	0.5	6.3	7.0	1.1	0.6	8.7
	Females	6.4	0.4	6.8	5.0	1.4	1.8	8.2
	M + F	6.1	0.4	6.6	6.0	1.2	1.2	8.4
Hungary	Males	6.5	0.3	6.8	6.4	0.9	0.9	8.2
	Females	6.9	0.4	7.3	4.6	0.7	2.4	7.7
	M + F	6.7	0.4	7.1	5.5	0.8	1.6	7.9
Iceland	Males	4.1	4.3	8.5	6.2	0.2	0.2	6.5
	Females	4.2	4.6	8.8	5.2	0.1	0.9	6.2
	M + F	4.2	4.5	8.6	5.7	0.1	0.5	6.4
Ireland	Males	3.8	1.5	5.3	8.0	0.9	0.8	9.7
	Females	4.1	1.5	5.5	7.3	0.4	1.7	9.5
	M + F	4.0	1.5	5.4	7.7	0.7	1.3	9.6
Italy	Males	5.9	0.5	6.4	6.3	1.0	1.4	8.6
	Females	6.6	0.6	7.2	4.3	0.9	2.5	7.8
	M + F	6.2	0.6	6.8	5.3	0.9	1.9	8.2
Japan[1]	Males	5.2	1.0	6.1	3.2	0.3	0.3	3.9
	Females	4.7	0.8	5.6	3.6	0.3	0.5	4.4
	M + F	4.9	0.9	5.9	3.4	0.3	0.4	4.1
Luxembourg	Males	7.2	0.6	7.8	6.3	0.5	0.4	7.2
	Females	7.6	0.2	7.8	5.6	0.9	0.7	7.2
	M + F	7.4	0.4	7.8	5.9	0.7	0.6	7.2
Mexico	Males	3.8	1.5	5.2	8.5	0.5	0.7	9.8
	Females	3.9	0.9	4.9	4.6	0.4	5.2	10.1
	M + F	3.8	1.2	5.0	6.5	0.4	3.1	10.0
Netherlands	Males	2.8	5.4	8.2	6.3	0.1	0.4	6.8
	Females	2.8	5.3	8.1	5.9	0.1	0.9	6.9
	M + F	2.8	5.3	8.1	6.1	0.1	0.7	6.9
New Zealand	Males	3.6	3.2	6.8	6.7	0.5	0.9	8.2
	Females	3.6	3.0	6.6	5.9	0.4	2.1	8.4
	M + F	3.6	3.1	6.7	6.3	0.5	1.5	8.3

1. Data refer to 15-24 year-olds.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table C3.1a. *(continued)*

Expected years in education and not in education for 15-29 year-olds (2008)

By gender and work status

			Expected years in education			Expected years not in education			
			Not employed	Employed (including work-study programmes)	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total
			(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	**Norway**	Males	4.1	2.0	6.1	8.0	0.3	0.6	8.9
		Females	4.0	3.2	7.2	6.7	0.3	0.9	7.8
		M + F	4.0	2.6	6.6	7.4	0.3	0.7	8.4
	Poland	Males	6.2	1.6	7.8	5.7	0.8	0.7	7.2
		Females	6.6	1.3	8.0	4.4	0.7	1.9	7.0
		M + F	6.4	1.5	7.9	5.1	0.8	1.3	7.1
	Portugal	Males	5.2	0.6	5.7	7.9	0.8	0.5	9.3
		Females	5.6	0.7	6.3	6.4	1.3	1.1	8.7
		M + F	5.4	0.6	6.0	7.1	1.1	0.8	9.0
	Slovak Republic	Males	5.1	1.0	6.1	7.2	1.2	0.5	8.9
		Females	5.9	0.9	6.9	4.9	1.0	2.2	8.1
		M + F	5.5	1.0	6.5	6.1	1.1	1.3	8.5
	Spain	Males	4.4	0.8	5.2	7.7	1.2	0.9	9.8
		Females	4.9	0.9	5.8	6.3	1.3	1.7	9.2
		M + F	4.6	0.8	5.5	7.0	1.3	1.3	9.5
	Sweden	Males	5.9	1.4	7.3	6.5	0.6	0.6	7.7
		Females	6.1	2.0	8.1	5.5	0.6	0.8	6.9
		M + F	6.0	1.7	7.7	6.0	0.6	0.7	7.3
	Switzerland	Males	2.9	4.2	7.1	6.6	0.4	0.8	7.9
		Females	3.0	3.7	6.7	6.7	0.5	1.1	8.3
		M + F	2.9	4.0	6.9	6.7	0.5	1.0	8.1
	Turkey	Males	3.3	0.8	4.1	7.6	1.5	1.8	10.9
		Females	2.9	0.4	3.3	3.1	0.7	7.9	11.7
		M + F	3.1	0.6	3.7	5.4	1.1	4.8	11.3
	United Kingdom	Males	3.6	2.1	5.7	7.6	1.0	0.7	9.3
		Females	3.6	2.3	5.8	6.5	0.6	2.1	9.2
		M + F	3.6	2.2	5.8	7.1	0.8	1.4	9.2
	United States	Males	4.5	2.1	6.6	6.5	0.9	1.0	8.4
		Females	4.3	2.7	7.0	5.5	0.5	2.0	8.0
		M + F	4.4	2.4	6.8	6.0	0.7	1.5	8.2
	OECD average	***Males***	***4.7***	***2.0***	***6.7***	***6.8***	***0.7***	***0.7***	***8.2***
		Females	***4.9***	***2.0***	***6.9***	***5.5***	***0.6***	***1.8***	***7.9***
		M + F	***4.8***	***2.0***	***6.8***	***6.1***	***0.7***	***1.2***	***8.0***
	EU19 average	***Males***	***5.1***	***1.7***	***6.8***	***6.7***	***0.8***	***0.6***	***8.2***
		Females	***5.5***	***1.7***	***7.2***	***5.5***	***0.7***	***1.5***	***7.8***
		M + F	***5.3***	***1.7***	***7.0***	***6.1***	***0.8***	***1.1***	***8.0***
Partner countries	**Brazil**	Males	2.7	2.5	5.2	8.2	0.7	0.9	9.8
		Females	3.4	2.0	5.4	5.5	1.0	3.0	9.6
		M + F	3.0	2.3	5.3	6.8	0.9	2.0	9.7
	Estonia	Males	5.6	1.4	7.0	7.1	0.4	0.6	8.0
		Females	6.4	1.6	8.0	4.5	0.3	2.2	7.0
		M + F	6.0	1.5	7.5	5.8	0.3	1.4	7.5
	Israel	Males	4.8	1.4	6.2	4.7	0.4	3.6	8.8
		Females	4.7	1.7	6.4	4.4	0.6	3.7	8.6
		M + F	4.8	1.5	6.3	4.5	0.5	3.6	8.7
	Slovenia	Males	5.5	2.5	8.1	5.8	0.6	0.4	6.9
		Females	6.3	2.8	9.1	4.4	0.7	0.8	5.9
		M + F	5.9	2.6	8.6	5.2	0.7	0.6	6.4

1. Data refer to 15-24 year-olds.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Table C3.2a.

Percentage of the youth population in education and not in education, by age group (2008)

By age group and work status

OECD countries

	Age group	In education					Not in education				Total in education and not in education
		Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	15-19	8.0	30.0	4.6	37.0	79.5	14.2	3.0	3.3	20.5	100
	20-24	5.3	22.8	1.6	10.8	40.5	49.0	3.7	6.8	59.5	100
	25-29	1.5	11.2	0.5	3.9	17.0	69.1	2.5	11.3	83.0	100
Austria	15-19	24.4	5.4	1.4	53.2	84.3	10.0	2.8	2.8	15.7	100
	20-24	2.1	10.4	0.8	19.0	32.3	56.3	4.6	6.8	67.7	100
	25-29	c	8.0	c	5.9	14.6	71.7	3.4	10.3	85.4	100
Belgium	15-19	1.2	2.0	c	86.8	90.5	4.0	1.9	3.6	9.5	100
	20-24	0.8	3.6	0.9	36.2	41.5	44.4	7.8	6.4	58.5	100
	25-29	c	3.8	c	3.0	7.7	75.8	7.3	9.2	92.3	100
Canada	15-19	a	30.9	4.7	44.8	80.4	12.4	2.9	4.4	19.6	100
	20-24	a	20.3	1.3	17.4	38.9	48.0	5.6	7.4	61.1	100
	25-29	a	7.1	0.4	5.0	12.4	72.7	5.0	9.9	87.6	100
Czech Republic	15-19	18.9	0.8	c	73.0	92.7	4.5	1.6	1.1	7.3	100
	20-24	0.9	3.9	0.2	39.9	44.8	44.7	4.1	6.5	55.2	100
	25-29	c	4.6	0.2	6.3	11.1	71.2	3.0	14.7	88.9	100
Denmark	15-19	a	46.8	3.3	38.7	88.9	8.3	1.1	1.7	11.1	100
	20-24	a	32.3	2.1	18.8	53.2	39.1	2.8	4.9	46.8	100
	25-29	a	15.8	0.5	9.3	25.5	66.9	2.3	5.3	74.5	100
Finland	15-19	a	13.8	5.4	71.1	90.3	4.6	1.9	3.2	9.7	100
	20-24	a	22.8	3.5	24.2	50.5	37.5	5.5	6.5	49.5	100
	25-29	a	19.5	1.4	8.3	29.2	58.4	4.2	8.1	70.8	100
France	15-19	6.2	2.3	0.7	81.9	91.1	3.6	2.6	2.7	8.9	100
	20-24	3.5	9.1	1.2	31.5	45.3	41.0	8.3	5.5	54.7	100
	25-29	0.9	6.8	0.7	3.7	12.1	70.1	8.3	9.5	87.9	100
Germany	15-19	20.5	6.5	1.2	64.2	92.4	3.9	2.0	1.7	7.6	100
	20-24	17.5	9.0	0.7	19.5	46.7	39.3	7.0	7.0	53.3	100
	25-29	2.7	7.4	0.4	8.8	19.2	63.8	7.1	9.9	80.8	100
Greece	15-19	a	1.7	0.2	84.9	86.8	4.8	2.3	6.1	13.2	100
	20-24	a	4.0	1.3	43.2	48.5	34.4	9.9	7.2	51.5	100
	25-29	a	2.9	0.8	5.1	8.9	70.0	11.1	10.0	91.1	100
Hungary	15-19	a	0.3	0.1	91.5	91.8	2.5	1.6	4.1	8.2	100
	20-24	a	2.4	0.5	45.4	48.4	33.2	7.5	10.9	51.6	100
	25-29	a	4.4	0.3	5.1	9.9	67.1	6.6	16.5	90.1	100
Iceland	15-19	a	41.7	3.5	40.3	85.5	12.0	1.5	1.0	14.5	100
	20-24	a	30.5	2.5	23.7	56.7	39.8	0.8	2.7	43.3	100
	25-29	a	17.1	0.7	12.8	30.6	62.6	0.7	6.2	69.4	100
Ireland	15-19	a	11.3	0.4	69.7	81.4	10.1	2.9	5.6	18.6	100
	20-24	a	12.8	0.3	17.1	30.2	55.3	5.8	8.7	69.8	100
	25-29	a	6.2	0.2	3.8	10.1	75.6	4.4	9.9	89.9	100
Italy	15-19	c	0.9	0.5	83.0	84.5	5.9	2.7	6.9	15.5	100
	20-24	0.4	5.0	1.4	35.7	42.6	35.4	8.3	13.7	57.4	100
	25-29	0.2	4.4	1.0	9.9	15.5	60.0	7.2	17.3	84.5	100
Japan	15-24	a	9.1	0.2	49.3	58.6	34.0	3.2	4.2	41.4	100
Luxembourg	15-19	a	4.0	c	90.1	94.0	3.8	1.0	1.1	6.0	100
	20-24	a	3.0	0.8	52.1	55.9	34.3	7.8	2.1	44.1	100
	25-29	a	1.0	0.6	9.6	11.2	75.8	5.7	7.4	88.8	100
Mexico	15-29	a	8.0	0.5	25.1	33.6	43.2	2.8	20.4	66.4	100
Netherlands	15-19	a	53.4	4.0	33.3	90.7	7.2	0.2	1.9	9.3	100
	20-24	a	37.2	1.3	13.7	52.1	42.3	1.1	4.6	47.9	100
	25-29	a	15.5	0.4	3.2	18.7	73.5	1.1	6.7	81.3	100
New Zealand	15-19	a	29.1	5.1	40.6	74.8	16.8	3.3	5.1	25.2	100
	20-24	a	20.5	1.9	16.3	38.7	46.0	3.0	12.2	61.3	100
	25-29	a	10.7	0.6	4.2	15.5	68.1	3.0	13.4	84.5	100

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310453

Table C3.2a. *(continued)*

Percentage of the youth population in education and not in education, by age group (2008)

By age group and work status

		Age group	In education					Not in education				Total in education and not in education
			Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	**Norway**	15-19	a	26.3	4.4	47.5	78.3	17.7	1.5	2.5	21.7	100
		20-24	a	19.8	1.2	18.2	39.3	53.6	2.1	5.0	60.7	100
		25-29	a	5.6	0.5	6.5	12.6	78.2	2.5	6.7	87.4	100
	Poland	15-19	a	4.0	0.6	91.2	95.8	1.9	0.7	1.6	4.2	100
		20-24	a	17.6	3.5	35.7	56.8	27.6	7.1	8.5	43.2	100
		25-29	a	7.3	0.7	3.4	11.4	67.1	7.0	14.5	88.6	100
	Portugal	15-19	a	1.4	0.6	79.8	81.7	11.2	3.7	3.4	18.3	100
		20-24	a	4.7	0.9	30.9	36.5	50.0	8.2	5.2	63.5	100
		25-29	a	5.8	0.6	5.5	11.9	73.0	8.5	6.5	88.1	100
	Slovak Republic	15-19	12.1	c	c	77.9	90.6	3.8	3.1	2.5	9.4	100
		20-24	c	3.7	c	35.0	39.3	44.1	9.0	7.6	60.7	100
		25-29	a	3.6	c	2.6	6.5	68.7	9.1	15.7	93.5	100
	Spain	15-19	a	3.8	1.6	73.5	78.9	10.5	5.4	5.2	21.1	100
		20-24	a	7.7	1.5	24.9	34.0	46.5	10.4	9.1	66.0	100
		25-29	a	4.9	0.8	3.8	9.5	71.5	8.9	10.0	90.5	100
	Sweden	15-19	a	11.5	7.7	68.2	87.4	8.2	1.8	2.6	12.6	100
		20-24	a	12.9	4.1	22.6	39.5	47.5	6.5	6.4	60.5	100
		25-29	a	10.2	2.0	9.6	21.7	68.7	4.2	5.4	78.3	100
	Switzerland	15-19	34.8	8.1	1.5	38.5	82.9	7.7	2.4	7.0	17.1	100
		20-24	10.5	15.6	1.8	14.7	42.7	48.2	3.7	5.4	57.3	100
		25-29	1.3	9.9	c	2.8	14.4	75.5	3.1	7.0	85.6	100
	Turkey	15-19	a	3.1	0.6	44.7	48.3	19.1	4.9	27.7	51.7	100
		20-24	a	5.5	1.6	12.8	19.9	35.5	9.4	35.2	80.1	100
		25-29	a	3.1	0.5	1.8	5.4	52.9	8.0	33.7	94.6	100
	United Kingdom	15-19	2.6	18.4	4.0	54.6	75.7	15.2	4.6	4.5	24.3	100
		20-24	0.8	13.1	1.5	15.5	29.3	53.5	6.7	10.5	70.7	100
		25-29	0.2	8.7	0.3	3.7	12.5	71.4	4.0	12.1	87.5	100
	United States	15-19	a	18.8	3.8	62.5	85.2	7.6	2.4	4.9	14.8	100
		20-24	a	20.0	1.5	15.4	36.9	45.9	6.4	10.8	63.1	100
		25-29	a	9.1	0.5	3.6	13.2	67.3	5.4	14.1	86.8	100
	OECD average	***15-19***		***14.5***	***2.6***	***63.8***	***84.6***	***8.6***	***2.4***	***4.4***	***15.4***	***100***
		20-24		***13.7***	***1.5***	***25.6***	***42.3***	***43.4***	***6.0***	***8.3***	***57.7***	***100***
		25-29		***8.0***	***0.6***	***5.6***	***14.4***	***69.1***	***5.3***	***11.2***	***85.6***	***100***
	EU19 average	***15-19***		***10.5***	***2.1***	***71.9***	***87.9***	***6.5***	***2.3***	***3.3***	***12.1***	***100***
		20-24		***11.3***	***1.5***	***29.5***	***43.5***	***42.4***	***6.8***	***7.3***	***56.5***	***100***
		25-29		***7.4***	***0.7***	***5.8***	***14.1***	***69.5***	***6.0***	***10.5***	***85.9***	***100***
Partner countries	**Brazil**	15-19	a	21.4	6.0	41.7	69.1	17.2	3.7	10.1	30.9	100
		20-24	a	14.8	2.4	6.7	23.8	53.7	7.6	14.9	76.2	100
		25-29	a	9.1	1.0	2.1	12.2	67.1	6.0	14.7	87.8	100
	Estonia	15-19	a	2.9	1.1	84.9	88.8	6.3	1.7	3.1	11.2	100
		20-24	a	17.0	0.9	28.6	46.5	42.8	2.1	8.6	53.5	100
		25-29	a	9.7	0.7	4.4	14.9	66.6	3.1	15.4	85.1	100
	Israel	15-19	a	4.1	0.4	66.2	70.7	7.1	1.2	21.1	29.3	100
		20-24	a	11.5	0.7	16.7	28.9	33.6	5.3	32.2	71.1	100
		25-29	a	15.7	0.8	7.4	24.0	53.1	3.6	19.3	76.0	100
	Slovenia	15-19	a	9.7	0.2	82.3	92.2	3.4	1.2	3.2	7.8	100
		20-24	a	22.6	1.7	36.3	60.6	29.2	6.3	3.9	39.4	100
		25-29	a	19.1	0.9	6.9	26.9	63.2	5.2	4.6	73.1	100

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310453

Table C3.2d.

Percentage of the youth population in education and not in education, by level of education (2008)

15-29 year-olds, by level of education and work status

		In education					Not in education				
	Level of education	Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total	Total in education and not in education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries											
Australia	Below upper secondary education	6.7	19.7	3.7	30.6	60.7	25.1	4.5	9.7	39.3	100
	Upper secondary and post-secondary non-tertiary education	5.8	23.8	1.7	11.8	43.1	47.9	2.7	6.3	56.9	100
	Tertiary education	c	18.6	0.9	6.8	26.9	66.3	1.7	5.0	73.1	100
Austria	Below upper secondary education	21.1	3.6	1.2	44.0	69.9	16.8	5.3	8.0	30.1	100
	Upper secondary and post-secondary non-tertiary education	0.9	9.8	0.6	14.5	25.9	65.3	2.6	6.3	74.1	100
	Tertiary education	a	17.1	c	9.3	27.7	66.0	c	4.0	72.3	100
Belgium	Below upper secondary education	1.2	1.9	c	63.8	67.5	16.2	6.2	10.1	32.5	100
	Upper secondary and post-secondary non-tertiary education	c	3.0	c	35.2	39.1	50.4	5.7	4.8	60.9	100
	Tertiary education	c	5.8	c	10.9	18.3	74.4	4.7	2.6	81.7	100
Canada	Below upper secondary education	a	24.8	4.4	39.6	68.8	17.5	4.5	9.2	31.2	100
	Upper secondary and post-secondary non-tertiary education	a	19.1	1.5	18.6	39.2	48.0	5.2	7.6	60.8	100
	Tertiary education	a	14.4	0.8	10.8	26.0	65.4	3.6	5.0	74.0	100
Czech Republic	Below upper secondary education	18.3	0.5	c	65.5	84.4	6.7	2.9	6.0	15.6	100
	Upper secondary and post-secondary non-tertiary education	0.4	3.6	0.1	25.4	29.5	58.2	3.1	9.2	70.5	100
	Tertiary education	a	10.0	c	18.6	29.0	62.6	2.3	6.2	71.0	100
Denmark	Below upper secondary education	a	40.3	2.6	30.7	73.6	19.1	2.4	4.9	26.4	100
	Upper secondary and post-secondary non-tertiary education	a	26.5	1.7	15.9	44.1	51.2	1.5	3.2	55.9	100
	Tertiary education	a	17.8	0.4	8.8	26.9	69.1	2.2	1.7	73.1	100
Finland	Below upper secondary education	a	13.2	4.9	61.7	79.7	11.3	2.8	6.2	20.3	100
	Upper secondary and post-secondary non-tertiary education	a	23.4	2.9	20.9	47.3	42.0	4.8	5.9	52.7	100
	Tertiary education	a	17.0	0.8	4.1	21.9	69.0	3.5	5.6	78.1	100
France	Below upper secondary education	4.9	2.0	0.7	59.8	67.4	16.7	7.3	8.5	32.6	100
	Upper secondary and post-secondary non-tertiary education	3.2	6.7	1.2	30.0	41.1	46.4	6.8	5.8	58.9	100
	Tertiary education	1.9	11.6	0.6	20.0	34.0	59.8	4.1	2.0	66.0	100
Germany	Below upper secondary education	20.6	5.3	1.1	49.9	76.9	11.0	5.3	6.8	23.1	100
	Upper secondary and post-secondary non-tertiary education	6.8	9.7	0.7	18.3	35.5	52.8	5.8	5.9	64.5	100
	Tertiary education	1.4	8.0	0.8	4.6	14.7	77.1	3.5	4.6	85.3	100
Greece	Below upper secondary education	a	1.2	0.1	55.6	57.0	29.0	5.3	8.7	43.0	100
	Upper secondary and post-secondary non-tertiary education	a	3.8	1.2	38.7	43.7	39.5	8.4	8.3	56.3	100
	Tertiary education	a	4.1	1.2	5.8	11.1	69.5	14.3	5.1	88.9	100
Hungary	Below upper secondary education	a	0.4	0.2	70.1	70.8	11.4	4.5	13.2	29.2	100
	Upper secondary and post-secondary non-tertiary education	a	3.1	0.3	34.6	37.9	45.7	6.3	10.0	62.1	100
	Tertiary education	a	6.7	0.7	6.6	14.1	74.8	3.7	7.5	85.9	100
Iceland	Below upper secondary education	a	32.5	3.1	28.2	63.8	31.2	1.3	3.7	36.2	100
	Upper secondary and post-secondary non-tertiary education	a	28.4	1.1	25.6	55.2	40.8	0.8	3.2	44.8	100
	Tertiary education	a	16.5	n	9.5	26.1	72.7	n	1.2	73.9	100
Ireland	Below upper secondary education	a	6.2	0.4	56.1	62.7	19.7	5.2	12.4	37.3	100
	Upper secondary and post-secondary non-tertiary education	a	12.6	0.3	18.6	31.5	55.9	4.8	7.8	68.5	100
	Tertiary education	a	9.9	0.1	7.1	17.1	76.0	3.1	3.7	82.9	100
Italy	Below upper secondary education	0.1	0.8	0.4	53.0	54.3	24.4	5.3	16.0	45.7	100
	Upper secondary and post-secondary non-tertiary education	0.4	5.2	1.3	31.7	38.7	44.1	6.9	10.3	61.3	100
	Tertiary education	c	8.3	2.2	23.3	34.1	47.3	7.2	11.4	65.9	100
Japan	Uppersecondary education and below	a	14.3	0.1	37.4	51.9	36.9	4.4	6.9	48.1	100
	Tertiary education	a	n	n	n	n	91.3	5.3	3.4	100.0	100
Luxembourg	Below upper secondary education	a	3.7	n	63.1	66.8	21.0	6.6	5.7	33.2	100
	Upper secondary and post-secondary non-tertiary education	a	1.8	0.6	45.9	48.4	45.8	3.5	2.3	51.6	100
	Tertiary education	a	1.1	1.3	13.5	15.9	80.5	2.4	1.1	84.1	100
Mexico	Below upper secondary education	a	4.6	0.2	19.0	23.7	46.2	2.6	27.4	76.3	100
	Upper secondary and post-secondary non-tertiary education	a	10.0	0.9	33.9	44.8	38.4	2.8	14.0	55.2	100
	Tertiary education	a	17.1	1.3	32.4	50.7	40.1	3.6	5.6	49.3	100
Netherlands	Below upper secondary education	a	40.9	3.2	26.3	70.4	22.0	1.0	6.6	29.6	100
	Upper secondary and post-secondary non-tertiary education	a	35.2	1.1	12.0	48.3	47.8	0.7	3.2	51.7	100
	Tertiary education	a	24.5	n	6.1	30.7	67.3	0.4	1.6	69.3	100

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310453

Table C3.2d. *(continued)*

Percentage of the youth population in education and not in education, by level of education (2008)

15-29 year-olds, by level of education and work status

			In education					Not in education				
			Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total	Total in education and not in education
		Level of education	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	**New Zealand**	Below upper secondary education	a	17.4	3.7	30.4	51.4	29.8	4.0	14.8	48.6	100
		Upper secondary and post-secondary non-tertiary education	a	28.1	2.6	20.1	50.8	40.8	2.1	6.3	49.2	100
		Tertiary education	a	15.9	1.4	8.6	25.9	62.4	3.4	8.3	74.1	100
	Norway	Below upper secondary education	a	18.4	3.7	34.2	56.3	33.6	2.9	7.2	43.7	100
		Upper secondary and post-secondary non-tertiary education	a	15.9	1.0	16.9	33.9	61.8	1.4	2.9	66.1	100
		Tertiary education	a	19.3	1.2	13.5	34.0	62.8	1.3	1.8	66.0	100
	Poland	Below upper secondary education	a	3.9	0.6	76.6	81.2	8.4	2.6	7.9	18.8	100
		Upper secondary and post-secondary non-tertiary education	a	12.6	2.4	25.7	40.6	41.7	6.6	11.1	59.4	100
		Tertiary education	a	14.8	1.4	5.3	21.6	67.0	6.5	4.9	78.4	100
	Portugal	Below upper secondary education	a	2.4	0.5	36.4	39.3	46.6	6.8	7.4	60.7	100
		Upper secondary and post-secondary non-tertiary education	a	5.6	0.8	45.2	51.6	41.2	5.2	2.0	48.4	100
		Tertiary education	a	9.3	1.5	7.3	18.1	67.4	12.3	2.2	81.9	100
	Slovak Republic	Below upper secondary education	11.5	c	n	70.6	82.2	3.1	6.7	8.0	17.8	100
		Upper secondary and post-secondary non-tertiary education	c	3.3	c	23.0	26.8	55.8	7.8	9.6	73.2	100
		Tertiary education	a	7.8	c	6.1	14.4	72.1	5.6	8.0	85.6	100
	Spain	Below upper secondary education	a	2.5	1.0	35.7	39.2	40.1	10.4	10.3	60.8	100
		Upper secondary and post-secondary non-tertiary education	a	8.3	1.5	32.5	42.3	44.7	6.4	6.6	57.7	100
		Tertiary education	a	8.5	1.4	12.3	22.3	65.0	6.3	6.4	77.7	100
	Sweden	Below upper secondary education	a	12.9	8.1	57.4	78.4	13.0	3.6	5.0	21.6	100
		Upper secondary and post-secondary non-tertiary education	a	7.0	2.7	12.1	21.8	66.2	6.2	5.8	78.2	100
		Tertiary education	a	20.1	3.6	23.5	47.2	47.1	2.8	3.0	52.8	100
	Switzerland	Below upper secondary education	33.8	7.0	1.4	31.8	73.9	15.5	2.9	7.7	26.1	100
		Upper secondary and post-secondary non-tertiary education	4.9	14.3	1.3	11.4	31.8	58.7	3.5	6.0	68.2	100
		Tertiary education	c	12.3	c	6.0	19.3	73.7	c	5.0	80.7	100
	Turkey	Below upper secondary education	a	2.2	0.4	22.9	25.5	32.3	6.0	36.2	74.5	100
		Upper secondary and post-secondary non-tertiary education	a	5.7	1.4	19.1	26.2	36.1	7.8	29.8	73.8	100
		Tertiary education	a	8.3	1.9	4.1	14.3	58.8	14.1	12.7	85.7	100
	United Kingdom	Below upper secondary education	1.0	4.4	n	27.4	32.8	32.1	11.0	24.1	67.2	100
		Upper secondary and post-secondary non-tertiary education	1.7	16.4	n	28.1	46.1	42.5	4.4	6.9	53.9	100
		Tertiary education	0.1	13.2	n	12.9	26.2	67.6	2.7	3.5	73.8	100
	United States	Below upper secondary education	a	12.4	3.2	56.6	72.2	14.7	3.7	9.4	27.8	100
		Upper secondary and post-secondary non-tertiary education	a	18.9	1.7	16.8	37.4	44.7	6.1	11.9	62.6	100
		Tertiary education	a	14.6	0.7	7.7	23.0	67.7	3.1	6.1	77.0	100
	OECD average	***Below upper secondary education***		***10.7***	***2.2***	***45.6***	***61.9***	***22.4***	***4.7***	***10.9***	***38.1***	***100***
		Upper secondary and post-secondary non-tertiary education		***12.9***	***1.3***	***24.4***	***39.4***	***48.4***	***4.7***	***7.6***	***60.6***	***100***
		Tertiary education		***12.6***	***1.2***	***10.9***	***24.7***	***66.9***	***4.8***	***4.8***	***76.2***	***100***
	EU19 average	***Below upper secondary education***		***8.1***	***1.8***	***50.0***	***63.2***	***18.1***	***5.0***	***8.4***	***31.6***	***100***
		Upper secondary education		***10.1***	***1.1***	***25.1***	***36.9***	***47.0***	***4.8***	***6.0***	***57.8***	***100***
		Tertiary education		***10.9***	***1.1***	***9.6***	***21.6***	***64.9***	***4.5***	***3.9***	***73.1***	***100***
Partner countries	**Brazil**	Below upper secondary education	a	15.7	3.9	24.8	44.4	36.4	4.3	14.8	55.6	100
		Upper secondary education	a	14.1	2.0	5.9	22.0	59.2	7.9	10.9	78.0	100
		Tertiary education	a	69.4	6.5	24.1	100.0	n	n	n	n	100
	Estonia	Below upper secondary education	a	2.7	1.0	65.7	69.5	20.8	2.8	7.0	30.5	100
		Upper secondary education	a	15.7	0.8	23.3	39.8	47.0	2.2	11.1	60.2	100
		Tertiary education	a	14.4	0.8	8.4	23.7	66.1	1.4	8.8	76.3	100
	Israel	Below upper secondary education	a	3.6	0.5	68.8	72.9	11.2	2.1	13.8	27.1	100
		Upper secondary education	a	12.9	0.7	17.0	30.5	32.8	3.9	32.8	69.5	100
		Tertiary education	a	14.1	0.7	5.4	20.2	61.0	3.8	15.0	79.8	100
	Slovenia	Below upper secondary education	a	8.2	0.7	75.1	84.0	9.4	2.1	4.5	16.0	100
		Upper secondary education	a	22.4	1.2	28.7	52.3	39.2	4.8	3.7	47.7	100
		Tertiary education	a	14.3	0.7	3.5	18.5	68.6	8.7	4.2	81.5	100

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310453

C3

Table C3.3.

Percentage of the cohort population not in education and unemployed, by level of education (2008)

By level of educational attainment, age group and gender

		Below upper secondary education				Upper secondary and post-secondary non-tertiary education				Tertiary education			All levels of education			
		15-19	20-24	25-29	15-29	15-19[1]	20-24	25-29	15-29	20-24[1]	25-29	15-29	15-19	20-24	25-29	15-29
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(10)	(11)	(12)
OECD countries																
Australia	Males	2.9	12.0	6.2	5.1	4.4	3.2	1.9	3.1	c	c	1.8	3.3	4.9	2.5	3.6
	Females	2.6	c	7.1	3.7	2.9	2.4	c	2.4	c	c	1.7	2.7	2.6	2.6	2.6
	M+F	2.7	9.1	6.6	4.5	3.6	2.8	1.9	2.7	2.2	1.4	1.7	3.0	3.7	2.5	3.1
Austria	Males	2.7	18.8	c	6.0	c	3.5	2.5	3.0	c	c	c	2.7	6.2	3.5	4.2
	Females	2.8	c	11.7	4.7	c	2.1	c	2.2	c	c	c	2.9	3.0	3.4	3.1
	M+F	2.7	13.4	10.7	5.3	c	2.8	2.3	2.6	c	c	c	2.8	4.6	3.4	3.6
Belgium	Males	1.8	20.8	15.1	7.1	c	4.6	5.3	5.1	c	c	4.3	2.5	8.0	7.0	5.8
	Females	c	14.2	14.5	5.0	c	5.9	9.0	6.3	6.6	4.1	5.0	c	7.5	7.7	5.5
	M+F	1.4	17.8	14.8	6.2	c	5.2	7.1	5.7	6.2	3.9	4.7	1.9	7.8	7.3	5.7
Canada	Males	2.9	14.9	12.7	5.8	4.9	6.2	7.0	6.1	5.0	3.8	4.2	3.6	7.0	6.0	5.6
	Females	1.6	8.5	6.8	2.9	3.5	4.0	4.7	4.1	3.4	3.1	3.1	2.2	4.2	3.9	3.4
	M+F	2.3	10.5	10.5	4.5	4.2	5.2	6.0	5.2	4.0	3.4	3.6	2.9	5.6	5.0	4.5
Czech Republic	Males	0.9	17.5	14.5	3.5	6.9	3.7	2.2	3.2	c	2.2	2.4	1.7	4.9	2.9	3.2
	Females	1.0	9.7	9.1	2.3	5.9	2.6	3.1	3.0	c	2.0	2.2	1.6	3.2	3.2	2.7
	M+F	1.0	14.0	11.9	2.9	6.4	3.2	2.6	3.1	3.0	2.1	2.3	1.6	4.1	3.0	3.0
Denmark	Males	1.4	5.7	c	2.9	m	c	c	c	m	c	c	1.4	3.0	2.5	2.3
	Females	c	6.0	c	1.8	c	c	c	1.8	c	c	c	c	2.5	2.1	1.8
	M+F	1.0	5.8	4.2	2.4	c	1.5	c	1.5	c	2.3	2.2	1.1	2.8	2.3	2.1
Finland	Males	1.9	15.6	c	3.9	c	4.8	4.2	4.6	c	c	c	2.2	6.3	3.7	4.0
	Females	c	c	c	1.5	c	4.1	5.7	5.1	c	3.9	4.7	1.6	4.6	4.9	3.7
	M+F	1.3	10.8	c	2.8	8.8	4.5	4.8	4.8	c	3.0	3.5	1.9	5.5	4.2	3.9
France	Males	c	25.8	17.6	9.1	c	6.5	9.2	7.2	4.5	3.4	3.7	2.9	9.9	8.9	7.2
	Females	c	16.1	12.1	5.4	c	6.0	8.5	6.4	3.8	5.1	4.5	2.3	6.8	7.6	5.6
	M+F	2.1	21.5	15.2	7.3	4.4	6.2	8.9	6.8	4.1	4.4	4.1	2.6	8.3	8.3	6.4
Germany	Males	2.3	13.3	21.1	6.5	5.2	6.8	7.1	6.9	c	3.3	3.2	2.4	8.5	8.5	6.5
	Females	1.3	8.6	11.3	3.9	4.5	4.5	5.1	4.7	5.0	3.3	3.7	1.6	5.5	5.6	4.3
	M+F	1.8	11.1	16.2	5.3	4.8	5.6	6.1	5.8	4.1	3.3	3.5	2.0	7.0	7.1	5.4
Greece	Males	c	12.7	9.0	5.7	c	6.5	8.2	6.9	c	12.4	12.5	c	8.3	9.5	7.1
	Females	c	c	c	4.9	c	8.6	13.3	10.1	23.5	13.3	15.5	c	11.6	12.9	9.4
	M+F	c	14.1	9.8	5.3	c	7.5	10.6	8.4	20.0	12.9	14.3	2.3	9.9	11.1	8.2
Hungary	Males	1.7	15.5	16.2	5.9	c	7.1	6.4	6.7	c	c	3.2	2.2	8.7	7.0	6.1
	Females	c	8.3	10.7	3.0	c	5.8	6.7	5.9	c	3.0	4.0	0.9	6.3	6.1	4.6
	M+F	1.1	12.2	13.6	4.5	4.3	6.5	6.5	6.3	8.0	2.8	3.7	1.6	7.5	6.6	5.3
Iceland	Males	c	c	m	c	m	c	c	c	m	m	m	c	c	c	c
	Females	c	m	c	c	m	m	m	m	m	m	m	c	m	c	c
	M+F	c	c	c	c	m	c	c	c	m	m	m	c	c	c	c
Ireland	Males	2.8	21.0	12.2	7.4	c	5.5	6.2	6.0	c	3.5	4.4	3.8	8.0	5.9	6.0
	Females	c	c	c	2.4	c	3.7	c	3.5	c	c	2.2	2.0	3.7	2.8	2.9
	M+F	2.1	15.8	9.4	5.2	5.3	4.6	4.9	4.8	3.9	2.7	3.1	2.9	5.8	4.4	4.4
Italy	Males	2.3	12.5	9.9	6.0	9.0	7.2	6.1	6.8	c	7.2	5.8	3.0	8.3	7.5	6.4
	Females	1.5	11.2	8.1	4.5	8.5	7.3	6.3	7.0	9.6	7.4	7.9	2.4	8.3	7.0	6.0
	M+F	1.9	11.9	9.1	5.3	8.7	7.2	6.2	6.9	6.6	7.3	7.2	2.7	8.3	7.2	6.2
Luxembourg	Males	c	c	c	4.6	m	c	m	c	m	c	c	c	5.6	4.2	3.6
	Females	c	30.8	c	9.1	m	c	7.5	4.4	m	c	c	c	10.1	7.1	5.9
	M+F	c	19.0	12.7	6.6	m	3.8	4.0	3.5	m	c	c	c	7.8	5.7	4.8
Mexico	Males	m	m	m	3.6	m	m	m	2.7	m	m	3.1	m	m	m	3.3
	Females	m	m	m	1.6	m	m	m	3.0	m	m	4.0	m	m	m	2.4
	M+F	m	m	m	2.6	m	m	m	2.8	m	m	3.6	m	m	m	2.8
Netherlands	Males	0.5	2.9	2.2	1.2	m	0.7	1.0	0.7	m	m	m	0.4	1.3	0.9	0.8
	Females	m	2.1	2.8	0.7	m	0.7	1.0	0.7	m	1.0	0.7	m	0.9	1.3	0.7
	M+F	0.3	2.6	2.4	1.0	m	0.7	1.0	0.7	m	0.6	0.4	0.2	1.1	1.1	0.8
New Zealand	Males	4.2	7.0	5.2	4.9	2.5	2.0	c	2.1	c	4.8	4.1	3.8	3.3	3.5	3.5
	Females	2.1	5.1	c	2.8	2.2	2.1	c	2.2	2.0	2.8	3.0	2.9	2.7	2.5	2.7
	M+F	3.3	6.1	3.8	4.0	2.3	2.1	1.9	2.1	2.2	3.6	3.4	3.3	3.0	3.0	3.1

1. Differences among countries in these columns partly reflect the fact that the average age of graduation varies across countries. For instance, in some countries a smaller share of 15-19 year-olds attain upper secondary education simply because graduation typically occurs at 19. This means that the denominator in the ratio for the reported columns will be smaller than those for which graduation occurs at an earlier age.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table C3.3. *(continued)*

Percentage of the cohort population not in education and unemployed, by level of education (2008)

By level of educational attainment, age group and gender

			Below upper secondary education				Upper secondary and post-secondary non-tertiary education				Tertiary education			All levels of education			
			15-19	20-24	25-29	15-29	15-19[1]	20-24	25-29	15-29	20-24[1]	25-29	15-29	15-19	20-24	25-29	15-29
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(10)	(11)	(12)
OECD countries	**Norway**	Males	c	c	c	3.1	c	c	c	c	c	c	c	c	c	c	2.3
		Females	c	c	c	c	c	c	c	c	c	c	c	c	c	c	1.7
		M + F	c	c	c	2.9	c	c	c	c	c	c	c	c	2.1	2.5	2.0
	Poland	Males	0.7	12.2	13.3	3.5	c	6.9	7.3	6.9	10.2	6.9	7.5	0.8	7.6	7.7	5.5
		Females	c	8.8	c	1.5	c	6.1	7.1	6.3	7.7	5.4	5.9	0.7	6.5	6.3	4.7
		M + F	0.6	10.8	9.2	2.6	3.5	6.5	7.2	6.6	8.5	6.0	6.5	0.7	7.1	7.0	5.1
	Portugal	Males	4.2	8.5	5.8	5.8	c	c	5.6	3.8	c	8.3	9.5	4.1	6.3	6.2	5.6
		Females	2.9	13.1	12.0	8.0	c	5.8	7.9	6.5	18.6	12.1	13.7	3.3	10.2	10.9	8.5
		M + F	3.5	10.4	8.3	6.8	c	4.3	6.8	5.2	17.3	10.8	12.3	3.7	8.2	8.5	7.0
	Slovak Republic	Males	2.5	38.1	33.1	8.2	10.8	6.9	8.0	7.6	c	c	5.9	3.5	10.2	8.9	7.7
		Females	c	21.8	35.1	5.0	12.7	6.7	8.4	7.9	c	5.3	5.3	2.7	7.7	9.2	6.7
		M + F	1.9	31.5	34.0	6.7	11.8	6.8	8.2	7.8	c	4.9	5.6	3.1	9.0	9.1	7.2
	Spain	Males	5.8	16.8	11.9	10.5	4.3	5.0	7.5	6.0	4.7	5.4	5.2	5.6	10.4	8.5	8.3
		Females	5.3	16.8	13.8	10.2	4.5	7.0	7.8	6.9	7.8	6.9	7.2	5.2	10.3	9.3	8.5
		M + F	5.5	16.8	12.7	10.4	4.4	6.1	7.6	6.4	6.6	6.2	6.3	5.4	10.4	8.9	8.4
	Sweden	Males	c	14.9	c	4.2	c	7.3	c	6.0	c	c	3.2	1.8	7.4	4.1	4.3
		Females	c	c	c	2.8	c	6.6	5.2	6.5	c	c	2.4	1.8	5.6	4.3	3.8
		M + F	c	13.6	9.8	3.6	8.3	7.0	4.4	6.2	c	2.9	2.8	1.8	6.5	4.2	4.1
	Switzerland	Males	c	c	c	2.8	c	3.0	c	3.2	c	c	c	c	3.8	2.9	3.0
		Females	c	c	c	2.9	c	3.7	c	3.8	c	c	c	2.6	3.6	3.3	3.2
		M + F	1.8	c	c	2.9	c	3.3	3.0	3.5	c	c	c	2.4	3.7	3.1	3.1
	Turkey	Males	6.6	15.8	12.5	10.3	6.8	9.3	8.7	8.4	14.3	11.4	12.5	6.7	12.6	11.1	9.9
		Females	1.7	2.6	2.3	2.1	6.2	7.5	7.1	7.0	23.2	10.7	15.8	2.8	6.6	4.7	4.7
		M + F	4.2	7.8	7.0	6.0	6.6	8.5	8.0	7.8	19.1	11.1	14.1	4.9	9.4	8.0	7.3
	United Kingdom	Males	6.5	21.7	9.2	10.4	4.9	6.3	5.3	5.5	6.0	2.3	3.6	5.6	8.5	4.8	6.3
		Females	2.8	10.4	5.0	4.9	3.3	3.9	4.0	3.7	3.0	1.5	2.1	3.2	4.7	3.2	3.7
		M + F	4.8	16.5	7.1	7.8	4.1	5.2	4.6	4.6	4.4	1.9	2.8	4.4	6.6	4.0	5.0
	United States	Males	1.5	16.9	10.4	4.5	6.9	7.7	7.8	7.6	5.2	2.7	3.5	3.1	8.3	6.4	5.9
		Females	c	10.1	8.5	2.8	3.3	3.9	5.8	4.4	3.9	2.1	2.8	1.7	4.5	4.4	3.5
		M + F	1.2	13.7	9.6	3.7	5.1	5.9	6.9	6.1	4.5	2.4	3.1	2.4	6.4	5.4	4.7
	OECD average	***Males***	***2.8***	***15.7***	***12.5***	***5.7***	***6.1***	***5.5***	***5.9***	***5.3***	***7.1***	***5.5***	***5.2***	***3.0***	***7.1***	***5.8***	***5.1***
		Females	***2.3***	***11.3***	***10.7***	***3.9***	***5.2***	***4.8***	***6.5***	***4.8***	***9.1***	***5.2***	***5.3***	***2.3***	***5.7***	***5.4***	***4.3***
		M + F	***2.2***	***13.2***	***10.8***	***4.8***	***5.7***	***4.9***	***5.5***	***4.9***	***7.3***	***4.5***	***5.0***	***2.6***	***6.2***	***5.5***	***4.7***
	EU19 average	***Males***	***2.5***	***16.4***	***13.7***	***5.9***	***6.9***	***5.6***	***5.7***	***5.5***	***6.3***	***5.5***	***5.3***	***2.7***	***7.2***	***5.9***	***5.3***
		Females	***2.5***	***12.7***	***12.2***	***4.3***	***6.6***	***5.1***	***6.7***	***5.2***	***9.5***	***5.3***	***5.5***	***2.3***	***6.3***	***6.0***	***4.8***
		M + F	***2.1***	***14.2***	***11.7***	***5.2***	***6.2***	***5.0***	***5.8***	***5.2***	***7.7***	***4.6***	***5.0***	***2.4***	***6.7***	***6.0***	***5.1***
Partner countries	**Brazil**	Males	2.4	6.0	4.2	3.8	8.7	7.0	4.8	6.3	m	m	m	3.2	6.5	4.5	4.7
		Females	2.5	8.0	6.7	4.9	11.7	9.4	8.2	9.2	m	m	m	4.2	8.8	7.5	6.8
		M + F	2.4	6.9	5.4	4.3	10.4	8.3	6.6	7.9	m	m	m	3.7	7.6	6.0	5.8
	Estonia	Males	c	c	c	2.7	c	c	c	2.6	c	c	c	c	3.1	c	2.5
		Females	c	c	c	2.8	m	c	c	c	m	c	c	c	c	4.2	2.1
		M + F	1.7	c	7.4	2.8	c	1.8	2.7	2.2	c	c	c	1.7	2.1	3.1	2.3
	Israel	Males	1.1	5.8	c	2.2	2.8	4.2	2.3	3.3	c	4.0	3.8	1.6	4.3	3.1	3.0
		Females	c	19.8	c	2.1	c	5.2	5.4	4.5	6.6	2.9	3.9	c	6.4	4.2	3.7
		M + F	0.6	10.2	4.4	2.1	2.4	4.7	3.6	3.9	5.4	3.4	3.8	1.2	5.3	3.6	3.3
	Slovenia	Males	c	8.0	14.5	2.6	c	6.7	3.0	4.7	c	4.1	6.1	c	7.2	3.9	4.2
		Females	m	10.5	c	1.4	6.9	4.1	5.3	4.9	16.3	9.2	10.2	1.6	5.3	6.7	4.8
		M + F	c	8.9	11.8	2.1	4.5	5.5	4.0	4.8	18.8	7.3	8.7	1.2	6.3	5.2	4.5

1. Differences among countries in these columns partly reflect the fact that the average age of graduation varies across countries. For instance, in some countries a smaller share of 15-19 year-olds attain upper secondary education simply because graduation typically occurs at 19. This means that the denominator in the ratio for the reported columns will be smaller than those for which graduation occurs at an earlier age.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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C3

Table C3.4a.

Trends in the percentage of the youth population in education and not in education (1995, 1997-2008)

By age group and work status

		1995			1998			2000			2005			2008		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
		(1)	(2)	(3)	(7)	(8)	(9)	(13)	(14)	(15)	(28)	(29)	(30)	(37)	(38)	(39)
OECD countries																
Australia	15-19	73.4	16.7	9.9	77.3	13.8	8.8	79.5	13.7	6.8	78.3	14.3	7.4	79.5	14.2	6.3
	20-24	27.0	56.1	16.9	32.7	51.3	16.0	35.9	50.9	13.3	39.4	49.0	11.6	40.5	49.0	10.5
	25-29	11.4	67.1	21.5	13.7	67.1	19.2	15.5	65.5	19.0	16.6	68.0	15.4	17.0	69.1	13.8
Austria	15-19	m	m	m	m	m	m	m	m	m	84.4	8.7	6.9	84.3	10.0	5.6
	20-24	m	m	m	m	m	m	m	m	m	30.4	57.2	12.4	32.3	56.3	11.4
	25-29	m	m	m	m	m	m	m	m	m	12.0	74.6	13.4	14.6	71.7	13.7
Belgium	15-19	86.1	3.3	10.5	85.3	3.9	10.8	89.9	3.6	6.5	90.1	3.7	6.2	90.5	4.0	5.5
	20-24	37.5	43.6	19.0	40.6	42.5	16.9	43.8	40.2	16.0	38.1	43.6	18.3	41.5	44.4	14.1
	25-29	6.8	74.2	19.0	9.3	72.4	18.2	11.8	72.5	15.7	7.4	74.9	17.7	7.7	75.8	16.5
Canada	15-19	79.9	10.5	9.5	81.5	9.9	8.5	80.6	11.2	8.2	80.2	12.8	7.0	80.4	12.4	7.3
	20-24	33.9	47.3	18.7	36.7	45.4	17.8	35.7	48.5	15.7	39.2	46.3	14.4	38.9	48.0	13.1
	25-29	10.3	67.7	22.1	10.8	70.1	19.1	10.6	72.3	17.1	12.5	71.7	15.8	12.4	72.7	14.9
Czech Republic	15-19	69.8	23.7	6.5	77.1	15.8	7.2	82.1	10.0	7.9	90.3	4.4	5.3	92.7	4.5	2.7
	20-24	13.1	67.1	19.8	17.1	64.3	18.5	19.7	60.0	20.3	35.9	47.5	16.6	44.8	44.7	10.6
	25-29	1.1	76.1	22.9	1.8	75.1	23.1	2.4	72.1	25.6	4.4	72.4	23.2	11.1	71.2	17.7
Denmark	15-19	88.4	8.7	3.0	90.3	7.9	1.8	89.9	7.4	2.7	88.4	7.3	4.3	88.9	8.3	2.8
	20-24	50.0	39.3	10.7	55.0	38.0	7.0	54.8	38.6	6.6	54.4	37.2	8.3	53.2	39.1	7.7
	25-29	29.6	59.0	11.4	34.5	57.8	7.7	36.1	56.4	7.5	27.0	61.3	11.6	25.5	66.9	7.6
Finland	15-19	m	m	m	m	m	m	m	m	m	90.2	4.5	5.2	90.3	4.6	5.1
	20-24	m	m	m	m	m	m	m	m	m	52.8	34.1	13.0	50.5	37.5	12.0
	25-29	m	m	m	m	m	m	m	m	m	25.7	60.3	14.0	29.2	58.4	12.4
France	15-19	96.2	1.3	2.5	95.6	1.3	3.1	95.3	1.5	3.3	91.0	3.0	5.9	91.1	3.6	5.3
	20-24	51.2	31.3	17.5	53.5	30.0	16.5	54.2	31.7	14.1	46.8	37.3	15.9	45.3	41.0	13.8
	25-29	11.4	67.5	21.0	11.4	66.5	22.1	12.2	69.2	18.6	12.5	70.1	17.4	12.1	70.1	17.8
Germany	15-19	m	m	m	m	m	m	87.4	6.8	5.7	92.9	2.7	4.4	92.4	3.9	3.7
	20-24	m	m	m	m	m	m	34.1	49.0	16.9	44.2	37.1	18.7	46.7	39.3	14.0
	25-29	m	m	m	m	m	m	12.7	69.8	17.5	18.5	60.3	21.2	19.2	63.8	17.0
Greece	15-19	80.0	9.6	10.5	79.0	9.8	11.2	82.6	8.1	9.3	82.2	6.1	11.7	86.8	4.8	8.4
	20-24	29.2	43.0	27.8	26.7	44.0	29.3	30.7	43.4	25.9	40.4	38.0	21.6	48.5	34.4	17.1
	25-29	4.7	65.2	30.2	4.3	66.1	29.6	5.1	65.8	29.2	6.4	69.8	23.7	8.9	70.0	21.1
Hungary	15-19	82.5	6.7	10.8	78.2	10.0	11.8	83.7	7.7	8.6	90.6	3.0	6.4	91.8	2.5	5.7
	20-24	22.5	44.4	33.1	26.5	45.9	27.6	32.3	45.7	22.0	46.6	34.5	18.9	48.4	33.2	18.4
	25-29	7.3	56.8	35.9	7.4	58.9	33.7	9.4	61.4	29.2	13.1	63.0	24.0	9.9	67.1	23.1
Iceland	15-19	59.5	25.7	14.8	82.2	15.1	c	83.1	14.8	c	86.4	10.7	c	85.5	12.0	c
	20-24	33.3	52.6	14.0	47.8	45.9	6.3	48.0	47.7	c	53.0	37.1	10.0	56.7	39.8	c
	25-29	24.1	64.7	11.1	32.8	57.4	9.8	34.9	59.2	5.9	30.9	61.5	7.6	30.6	62.6	6.9
Ireland	15-19	m	m	m	m	m	m	80.0	15.6	4.4	82.4	13.1	4.5	81.4	10.1	8.5
	20-24	m	m	m	m	m	m	26.7	63.6	9.7	27.7	60.0	12.3	30.2	55.3	14.6
	25-29	m	m	m	m	m	m	3.3	83.4	13.3	5.3	80.9	13.8	10.1	75.6	14.3
Italy	15-19	m	m	m	75.4	9.5	15.2	77.1	9.8	13.1	81.8	7.0	11.2	84.5	5.9	9.6
	20-24	m	m	m	35.8	34.1	30.1	36.0	36.5	27.5	38.6	37.3	24.1	42.6	35.4	22.0
	25-29	m	m	m	16.5	54.1	29.4	17.0	56.1	26.9	14.4	59.8	25.8	15.5	60.0	24.5
Japan	15-24	58.0	34.9	7.1	60.0	32.4	7.6	62.1	29.2	8.8	59.7	31.5	8.8	58.6	34.0	7.4
Luxembourg	15-19	82.7	9.3	8.0	88.6	5.3	6.1	92.2	6.1	c	93.4	4.4	2.2	94.0	3.8	2.1
	20-24	36.5	52.7	10.8	40.4	50.1	9.5	42.8	48.9	8.2	47.4	43.3	9.3	55.9	34.3	9.8
	25-29	8.3	71.6	20.1	11.9	74.0	14.1	11.6	75.5	12.9	8.6	81.2	10.3	11.2	75.8	13.0
Mexico	15-19	45.0	31.8	23.2	46.9	33.8	19.3	47.9	33.8	18.3	m	m	m	m	m	m
	20-24	15.9	53.4	30.7	17.1	55.4	27.4	17.7	55.2	27.1	m	m	m	m	m	m
	25-29	4.6	62.0	33.4	4.2	65.2	30.6	4.0	65.8	30.2	m	m	m	m	m	m
Netherlands	15-19	m	m	m	89.7	7.6	2.7	80.6	15.7	3.7	89.2	7.0	3.9	90.7	7.2	2.1
	20-24	m	m	m	50.5	42.0	7.5	36.5	55.2	8.2	49.1	41.8	9.1	52.1	42.3	5.6
	25-29	m	m	m	24.4	64.9	10.7	5.0	83.0	12.1	18.2	70.2	11.6	18.7	73.5	7.8

Note: Years 1997, 1999, 2001, 2002, 2003, 2004, 2006 and 2007 are available for consultation on line (see *StatLink* below).
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310453

Table C3.4a. *(continued)*

Trends in the percentage of the youth population in education and not in education (1995, 1997-2008)

By age group and work status

		Age group	1995			1998			2000			2005			2008		
			In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
			Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
			(1)	(2)	(3)	(7)	(8)	(9)	(13)	(14)	(15)	(28)	(29)	(30)	(37)	(38)	(39)
OECD countries	New Zealand	15-19	m	m	m	m	m	m	m	m	m	74.8	17.1	8.0	74.8	16.8	8.4
		20-24	m	m	m	m	m	m	m	m	m	38.8	46.7	14.4	38.7	46.0	15.2
		25-29	m	m	m	m	m	m	m	m	m	18.3	65.6	16.1	15.5	68.1	16.4
	Norway	15-19	m	m	m	92.1	6.0	1.9	92.4	5.9	c	87.4	10.1	2.5	78.3	17.7	4.0
		20-24	m	m	m	40.2	51.4	8.4	41.7	50.3	8.0	41.5	48.9	9.6	39.3	53.6	7.0
		25-29	m	m	m	14.4	76.1	9.6	17.5	72.1	10.4	15.7	72.0	12.3	12.6	78.2	9.2
	Poland	15-19	89.6	4.2	6.2	91.0	4.2	4.8	92.8	2.6	4.5	97.9	0.4	1.7	95.8	1.9	2.4
		20-24	23.7	42.5	33.8	30.8	45.3	23.9	34.9	34.3	30.8	62.7	17.2	20.1	56.8	27.6	15.6
		25-29	3.1	67.5	29.4	5.7	70.5	23.8	8.0	62.9	29.1	16.4	54.3	29.3	11.4	67.1	21.5
	Portugal	15-19	72.4	18.5	9.1	71.6	20.1	8.3	72.6	19.7	7.7	79.3	12.2	8.4	81.7	11.2	7.1
		20-24	37.8	46.6	15.6	32.4	55.7	12.0	36.5	52.6	11.0	37.4	48.4	14.1	36.5	50.0	13.5
		25-29	11.6	70.9	17.4	9.5	74.8	15.8	11.0	76.6	12.5	11.5	73.6	14.9	11.9	73.0	15.1
	Slovak Republic	15-19	70.1	14.0	15.9	69.4	12.3	18.3	67.3	6.4	26.3	90.4	3.3	6.3	90.6	3.8	5.7
		20-24	14.8	54.9	30.3	17.4	56.3	26.3	18.1	48.8	33.1	31.0	43.8	25.2	39.3	44.1	16.6
		25-29	1.6	65.5	32.9	1.1	71.6	27.2	1.3	66.9	31.8	6.1	64.9	29.0	6.5	68.7	24.7
	Spain	15-19	77.3	11.2	11.5	80.2	9.9	9.8	80.6	11.4	8.0	78.2	11.0	10.8	78.9	10.5	10.5
		20-24	40.0	34.2	25.8	44.3	35.7	20.1	44.6	40.3	15.0	35.1	45.5	19.4	34.0	46.5	19.4
		25-29	14.6	51.5	33.9	15.3	57.3	27.5	16.2	62.4	21.4	10.9	69.3	19.8	9.5	71.5	18.9
	Sweden	15-19	87.4	6.9	5.6	90.9	4.3	4.7	90.6	5.8	3.6	89.6	5.8	4.7	87.4	8.2	4.4
		20-24	38.8	43.7	17.5	42.6	44.3	13.1	42.1	47.2	10.7	42.5	44.1	13.4	39.5	47.5	12.9
		25-29	19.9	67.0	13.2	24.9	65.0	10.0	21.9	68.9	9.2	23.6	66.5	10.0	21.7	68.7	9.5
	Switzerland	15-19	65.6	10.2	24.2	85.5	9.6	4.9	84.6	7.5	7.9	85.3	7.2	7.5	82.9	7.7	9.4
		20-24	29.5	59.2	11.3	34.7	54.1	11.3	37.4	56.7	5.9	37.9	50.3	11.9	42.7	48.2	9.1
		25-29	10.6	76.2	13.2	10.1	78.0	11.9	15.1	73.9	11.0	12.3	75.9	11.8	14.4	75.5	10.1
	Turkey	15-19	38.7	34.2	27.2	40.2	32.1	27.7	39.2	29.6	31.2	42.5	19.9	37.7	48.3	19.1	32.6
		20-24	10.3	46.5	43.2	13.4	44.7	42.0	12.7	43.1	44.2	15.2	37.7	47.1	19.9	35.5	44.6
		25-29	2.7	59.6	37.8	2.9	60.4	36.7	2.9	58.8	38.3	4.3	53.5	42.2	5.4	52.9	41.7
	United Kingdom	15-19	m	m	m	m	m	m	77.0	15.0	8.0	76.0	14.6	9.3	76.7	14.5	8.8
		20-24	m	m	m	m	m	m	32.4	52.2	15.4	32.1	51.0	16.8	30.3	52.7	17.0
		25-29	m	m	m	m	m	m	13.3	70.3	16.3	13.3	70.1	16.6	12.8	71.2	16.0
	United States	15-19	81.5	10.7	7.8	82.2	10.5	7.3	81.3	11.7	7.0	85.6	8.3	6.1	85.2	7.6	7.2
		20-24	31.5	50.7	17.8	33.0	52.6	14.4	32.5	53.1	14.4	36.1	48.4	15.5	36.9	45.9	17.2
		25-29	11.6	71.4	17.0	11.9	72.7	15.4	11.4	72.8	15.8	11.9	70.0	18.1	13.2	67.3	19.5
	OECD average	*15-19*	*75.1*	*13.5*	*11.4*	*79.6*	*11.5*	*9.2*	*80.4*	*11.2*	*9.2*	*84.4*	*8.2*	*7.5*	*84.6*	*8.6*	*7.0*
		20-24	*31.9*	*46.1*	*22.0*	*36.2*	*45.5*	*18.3*	*36.3*	*46.7*	*18.2*	*41.3*	*42.4*	*16.4*	*42.7*	*43.0*	*14.7*
		25-29	*10.3*	*66.4*	*23.3*	*12.7*	*67.1*	*20.2*	*12.4*	*68.5*	*19.1*	*14.0*	*68.0*	*18.0*	*14.4*	*69.1*	*16.5*
	EU19 average	*15-19*	*81.9*	*9.8*	*8.3*	*83.0*	*8.7*	*8.3*	*83.6*	*9.0*	*7.7*	*87.3*	*6.4*	*6.3*	*87.9*	*6.5*	*5.6*
		20-24	*32.9*	*45.3*	*21.8*	*36.7*	*44.9*	*18.5*	*36.5*	*46.4*	*17.1*	*41.8*	*42.1*	*16.2*	*43.6*	*42.4*	*14.0*
		25-29	*10.0*	*66.1*	*23.9*	*12.7*	*66.4*	*20.9*	*11.7*	*69.0*	*19.3*	*13.4*	*68.3*	*18.3*	*14.1*	*69.5*	*16.4*
Partner countries	Brazil	15-19	m	m	m	m	m	m	m	m	m	m	m	m	69.1	17.2	13.8
		20-24	m	m	m	m	m	m	m	m	m	m	m	m	23.8	53.7	22.5
		25-29	m	m	m	m	m	m	m	m	m	m	m	m	12.2	67.1	20.7
	Estonia	15-19	m	m	m	m	m	m	m	m	m	92.0	2.9	5.2	88.8	6.3	4.9
		20-24	m	m	m	m	m	m	m	m	m	50.9	32.7	16.3	46.5	42.8	10.7
		25-29	m	m	m	m	m	m	m	m	m	14.2	61.8	24.0	14.9	66.6	18.5
	Israel	15-19	m	m	m	m	m	m	m	m	m	68.9	6.3	24.7	70.7	7.1	22.2
		20-24	m	m	m	m	m	m	m	m	m	28.3	31.4	40.3	28.9	33.6	37.5
		25-29	m	m	m	m	m	m	m	m	m	21.4	54.3	24.2	24.0	53.1	22.9
	Slovenia	15-19	m	m	m	m	m	m	m	m	m	92.4	2.7	4.9	92.2	3.4	4.4
		20-24	m	m	m	m	m	m	m	m	m	55.7	31.3	13.0	60.6	29.2	10.3
		25-29	m	m	m	m	m	m	m	m	m	24.6	63.9	11.5	26.9	63.2	9.9

Note: Years 1997, 1999, 2001, 2002, 2003, 2004, 2006 and 2007 are available for consultation on line (see *StatLink* below).
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310453

C3

Table C3.5.

Educational attainment and occupational matches by migrant status, and proportion of population born abroad among 20-29 year-olds and 15-64 year-olds (2003 and 2007)

Proportion of 20-24 year-old non-students with below upper secondary education, proportion of 25-29 year-olds with tertiary education, proportion of 25-29 year-old tertiary-educated non-students in skilled jobs, by migrant status, and proportion of population born abroad among 20-29 year-olds and 15-64 year-olds

				Proportion of 20-24 year-olds who are not in education and have not attained upper secondary education, by migrant status			Proportion of 25-29 year-olds who either have a tertiary education qualification or are currently enrolled in a tertiary education programme, by migrant status			Proportion of employed 25-29 year-old non-students with a tertiary education, working as technicians and associate professionals (ISCO 3) or as professionals (ISCO 2), by migrant status			Proportion of population born abroad among	
				Country of birth			Country of birth			Country of birth				
				Born abroad	Born in the country	Total	Born abroad	Born in the country	Total	Born abroad	Born in the country	Total	20-29 year-olds	15-64 year-olds
				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	2007	QX	7	17	15	62	40	45	53	65	62	23	27
		2003		11	20	18	56	36	40	59	65	63	21	27
	Austria	2007	Q1	30	9	13	26	26	26	66	70	69	18	17
		2003		m	m	m	m	m	m	52	65	64	14	14
	Belgium	2007	Q1	32	13	15	37	43	42	45	66	64	12	13
		2003		m	m	m	m	m	m	m	m	m	10	13
	Canada	2007	Q1	7	10	9	62	56	57	49	57	56	18	23
		2003		m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	2007	Q1	19	5	6	35	23	24	91	86	87	2	2
		2003		22	5	6	19	10	10	83	86	86	2	2
	Denmark	2007	Q1	m	m	m	m	m	m	m	m	m	m	m
		2003		m	m	m	m	m	m	m	m	m	m	m
	Finland	2007	Q1	19	9	9	31	50	49	59	78	77	5	3
		2003		20	9	9	38	54	53	m	70	70	4	3
	France	2007	Q1	24	13	14	33	44	43	53	63	63	9	12
		2004		31	13	14	29	43	42	59	66	66	m	m
	Germany	2007	Q1	24	11	13	26	32	31	66	76	74	17	16
		2003		31	10	13	24	32	30	63	72	72	15	13
	Greece	2007	Q1	44	14	17	10	33	31	45	70	69	10	8
		2003		42	15	17	15	28	27	38	70	68	9	7
	Hungary	2007	Q1	8	13	13	35	30	30	90	77	77	2	2
		2003		11	13	13	29	22	22	43	79	79	2	2
	Iceland	2007	Q1	27	26	27	54	30	32	68	77	75	11	8
		2003		m	24	24	m	m	30	m	m	71	17	12
	Ireland	2007	Q1	m	12	12	m	46	47	m	52	49	9	6
		2003		m	m	m	m	m	m	43	55	53	0.5	0.3
	Italy	2007	Q1	48	20	22	14	31	29	55	75	74	m	m
		2003		m	m	m	m	m	m	m	m	m	12	10
	Luxembourg	2007	Q1	28	16	20	49	30	38	95	100	97	39	42
		2003		20	13	15	22	28	25	93	97	95	35	39
	Netherlands	2007	Q1	21	15	15	31	44	42	81	76	77	12	13
		2003		31	16	18	29	40	39	67	75	74	12	13
	Norway	2007	Q1	28	21	21	34	48	47	70	77	77	9	9
		2003		12	3	4	37	44	44	57	79	78	9	7
	Poland	2007	Q1	18	6	6	92	39	40	100	66	66	0.2	0.4
		2003		m	m	m	m	m	m	m	m	m	m	m
	Portugal	2007	Q1	35	42	41	30	30	30	47	77	73	9	7
		2003		m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	2007	Q1	m	6	6	m	23	23	m	78	78	0.3	0.5
		2003		m	4	4	54	16	16	63	76	75	0.5	1
	Spain	2007	Q1	49	33	36	22	48	42	19	58	53	19	15
		2003		45	33	34	28	45	44	31	54	52	10	8
	Sweden	2007	Q1	15	8	9	39	46	45	66	82	81	14	15
		2003		13	8	8	34	42	41	76	88	87	13	13
	Switzerland	2007	Q2	23	5	9	35	44	41	68	70	70	26	26
		2003		28	6	11	32	35	34	72	69	70	25	26
	Turkey	2007	Q1	m	m	52	m	m	16	m	m	64	m	m
		2003		m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	2007	Q1	14	19	18	39	40	40	61	58	59	16	13
		2003		m	m	m	m	m	m	m	m	m	13	10
	United States	2007	Q3	31	9	12	34	46	43	m	m	m	17	15
		2003		32	8	11	34	48	46	m	m	m	16	16
	OECD average	*2007*		*25*	*15*	*17*	*38*	*38*	*37*	*64*	*72*	*71*	*13*	*13*
		2003		*25*	*13*	*14*	*32*	*35*	*34*	*60*	*73*	*72*	*12*	*12*
Partner countries	Estonia	2007	Q1	m	15	14	54	36	37	m	65	68	4	14
		2003		m	15	15	m	37	36	m	54	53	4	15
	Israel	2007	Q1	10	9	10	53	50	50	60	59	59	18	17
		2003		10	10	10	57	49	50	52	64	61	18	17
	Slovenia	2007	Q1	18	5	6	14	46	45	m	85	83	3	8
		2003		17	5	5	29	38	37	100	82	82	3	8

Source: OECD, LSO Network, special data collection, Monitoring Transition Systems Working Group. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310453

Table C3.6.

Permanent jobs, full-time work and involuntary part-time work among 15-29 year-old non-students (2007)

Proportion of 15-29 year-old non-students working in permanent jobs, working full-time and working involuntarily part-time among all 15-29 year-old non-students, by level of educational attainment and gender

					Ratio of 15-29 year-old non-students working in permanent jobs to all 15-29 year-old non-students working			Ratio of 15-29 year-old non-students working full-time to all 15-29 year-old non-students working			Ratio of 15-29 year-old non-students working involuntarily part-time to all 15-29 year-old non-students working part-time		
					Males	Females	M + F	Males	Females	M + F	Males	Females	M + F
					(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	2007	QX	Below upper secondary	m	m	m	86	58	77	m	m	m
				Upper secondary and post-secondary non-tertiary	m	m	m	89	73	82	m	m	m
				Tertiary education	m	m	m	91	84	87	m	m	m
				All levels of education	m	m	m	89	75	82	m	m	m
	Austria	2007	Q2	Below upper secondary	89	93	91	88	58	75	74	51	57
				Upper secondary and post-secondary non-tertiary	93	95	94	97	78	88	59	35	39
				Tertiary education	87	74	80	94	81	87	33	47	43
				All levels of education	92	92	92	95	76	86	61	40	44
	Belgium	2007	Q1	Below upper secondary	81	77	80	95	65	85	44	53	51
				Upper secondary and post-secondary non-tertiary	87	83	86	94	61	81	53	39	42
				Tertiary education	83	79	81	96	84	89	63	49	51
				All levels of education	85	81	83	95	72	85	53	44	46
	Canada	2007	Q1	Below upper secondary	86	85	86	84	67	78	14	13	14
				Upper secondary and post-secondary non-tertiary	89	88	88	90	77	85	19	11	14
				Tertiary education	89	83	86	93	85	89	15	20	19
				All levels of education	88	85	87	91	81	86	17	15	16
	Czech Republic	2007	Q1	Below upper secondary	70	77	72	96	90	94	47	40	44
				Upper secondary and post-secondary non-tertiary	91	89	90	99	96	98	27	31	30
				Tertiary education	93	87	90	98	95	97	45	13	21
				All levels of education	90	89	89	99	96	98	35	29	30
	Denmark	2007	Q1	Below upper secondary	83	80	82	87	73	82	41	36	38
				Upper secondary and post-secondary non-tertiary	90	81	86	92	78	86	53	41	45
				Tertiary education	84	85	85	94	80	87	60	39	43
				All levels of education	87	82	85	91	78	85	47	40	42
	Finland	2007	Q1	Below upper secondary	82	69	79	95	70	88	52	38	42
				Upper secondary and post-secondary non-tertiary	83	70	78	94	78	88	62	48	52
				Tertiary education	81	66	72	96	93	94	26	40	36
				All levels of education	82	68	76	95	83	90	55	46	49
	France	2007	Q1	Below upper secondary	72	67	71	93	68	84	63	64	64
				Upper secondary and post-secondary non-tertiary	79	73	77	95	76	87	68	63	64
				Tertiary education	85	80	82	96	88	92	51	54	53
				All levels of education	80	75	78	95	81	88	62	61	61
	Germany	2007	Q1	Below upper secondary	72	74	73	78	48	66	13	6	8
				Upper secondary and post-secondary non-tertiary	80	83	81	94	75	86	7	11	10
				Tertiary education	80	70	74	93	80	85	34	19	21
				All levels of education	79	79	79	92	73	83	12	11	11
	Greece	2007	Q1	Below upper secondary	83	84	83	96	84	94	92	52	71
				Upper secondary and post-secondary non-tertiary	84	86	85	96	91	94	62	67	65
				Tertiary education	89	73	79	95	89	92	94	71	77
				All levels of education	84	81	83	96	89	93	78	65	70
	Hungary	2007	Q1	Below upper secondary	77	80	78	98	94	96	48	66	58
				Upper secondary and post-secondary non-tertiary	89	91	90	98	96	97	50	48	49
				Tertiary education	91	85	88	98	99	99	m	m	45
				All levels of education	88	88	88	98	97	98	46	53	50
	Iceland	2007	Q1	Below upper secondary	92	85	90	m	m	m	m	m	m
				Upper secondary and post-secondary non-tertiary	88	89	89	m	m	m	m	m	m
				Tertiary education	81	85	84	m	m	m	m	m	m
				All levels of education	90	86	88	m	m	m	m	m	m
	Ireland	2007	Q2	Below upper secondary	93	84	90	94	61	85	17	3	7
				Upper secondary and post-secondary non-tertiary	93	91	92	96	83	91	20	7	10
				Tertiary education	90	86	88	97	92	94	17	14	14
				All levels of education	92	88	90	96	86	92	18	8	10
	Italy	2007	Q1	Below upper secondary	79	75	78	94	71	88	21	17	19
				Upper secondary and post-secondary non-tertiary	71	72	71	94	79	87	29	15	19
				Tertiary education	63	61	62	90	83	86	18	16	17
				All levels of education	74	71	73	94	78	87	25	16	18
	Luxembourg	2007	Q1	Below upper secondary	81	93	86	98	78	89	m	20	19
				Upper secondary and post-secondary non-tertiary	88	80	84	96	87	92	m	14	24
				Tertiary education	89	87	88	99	82	90	m	31	35
				All levels of education	86	85	86	97	83	91	m	22	26

Source: OECD, LSO Network, special data collection, Monitoring Transition Systems Working Group. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
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C3

Table C3.6. *(continued)*

Permanent jobs, full-time work and involuntary part-time work among 15-29 year-old non-students (2007)

Proportion of 15-29 year-old non-students working in permanent jobs, working full-time and working involuntarily part-time among all 15-29 year-old non-students, by level of educational attainment and gender

					Ratio of 15-29 year-old non-students working in permanent jobs to all 15-29 year-old non-students working			Ratio of 15-29 year-old non-students working full-time to all 15-29 year-old non-students working			Ratio of 15-29 year-old non-students working involuntarily part-time to all 15-29 year-old non-students working part-time		
					Males	Females	M + F	Males	Females	M + F	Males	Females	M + F
					(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Netherlands	2007	Q1	Below upper secondary	69	64	67	86	39	69	43	35	38
				Upper secondary and post-secondary non-tertiary	77	77	77	88	45	68	41	26	29
				Tertiary education	73	74	74	88	60	72	43	22	26
				All levels of education	74	74	74	87	49	69	43	27	31
	New Zealand	2007	Q1	Below upper secondary	m	m	m	94	70	86	42	20	26
				Upper secondary and post-secondary non-tertiary	m	m	m	96	78	89	41	29	31
				Tertiary education	m	m	m	92	85	88	58	30	39
				All levels of education	m	m	m	94	81	88	50	27	33
	Norway	2007	Q1	Below upper secondary	87	81	85	87	51	74	42	47	46
				Upper secondary and post-secondary non-tertiary	92	83	88	93	65	81	36	35	35
				Tertiary education	84	72	77	88	74	80	27	54	48
				All levels of education	88	79	84	90	65	79	36	45	42
	Poland	2007	Q1	Below upper secondary	43	33	41	85	80	84	50	56	52
				Upper secondary and post-secondary non-tertiary	53	47	51	96	87	92	75	63	67
				Tertiary education	72	59	64	98	93	95	45	47	47
				All levels of education	57	51	54	96	89	93	66	58	61
	Portugal	2007	Q1	Below upper secondary	64	63	64	97	94	96	40	37	38
				Upper secondary and post-secondary non-tertiary	59	57	58	96	94	95	40	39	39
				Tertiary education	52	39	43	95	90	92	m	43	51
				All levels of education	62	56	59	97	93	95	46	40	42
	Slovak Republic	2007	Q1	Below upper secondary	80	75	78	100	84	95	m	m	m
				Upper secondary and post-secondary non-tertiary	90	90	90	100	97	99	m	21	29
				Tertiary education	94	94	94	99	98	98	m	m	20
				All levels of education	90	91	91	100	97	98	62	21	29
	Spain	2007	Q1	Below upper secondary	43	46	44	95	75	89	55	55	55
				Upper secondary and post-secondary non-tertiary	52	57	54	93	80	87	55	53	54
				Tertiary education	56	53	54	94	85	89	54	56	55
				All levels of education	49	52	50	95	80	89	55	55	55
	Sweden	2007	Q1	Below upper secondary	76	58	70	85	59	76	52	41	45
				Upper secondary and post-secondary non-tertiary	72	55	65	89	58	76	52	48	49
				Tertiary education	76	67	71	93	85	89	49	42	44
				All levels of education	73	59	67	88	67	79	49	47	47
	Turkey	2007	Q1	Below upper secondary	87	84	87	95	74	89	29	7	15
				Upper secondary and post-secondary non-tertiary	93	97	94	97	93	96	33	19	27
				Tertiary education	97	97	97	98	96	97	37	16	23
				All levels of education	91	93	91	96	84	92	30	9	17
	United Kingdom	2007	Q1	Below upper secondary	93	92	93	89	65	81	64	38	47
				Upper secondary and post-secondary non-tertiary	93	94	93	93	73	84	61	35	42
				Tertiary education	92	90	91	94	88	91	48	37	40
				All levels of education	93	92	93	92	77	85	59	36	43
	United States	2007	Q3	Below upper secondary	m	m	m	91	71	85	59	50	54
				Upper secondary and post-secondary non-tertiary	m	m	m	91	80	86	65	40	50
				Tertiary education	m	m	m	96	89	92	66	40	46
				All levels of education	m	m	m	92	83	88	64	41	50
	OECD average	*2007*		*Below upper secondary*	*78*	*75*	*77*	*92*	*72*	*85*	*46*	*37*	*39*
				Upper secondary and post-secondary non-tertiary	*82*	*80*	*81*	*95*	*81*	*89*	*46*	*35*	*39*
				Tertiary education	*82*	*76*	*79*	*95*	*88*	*91*	*44*	*37*	*39*
				All levels of education	*82*	*78*	*80*	*94*	*82*	*89*	*47*	*36*	*39*
Partner countries	Estonia	2007	Q1	Below upper secondary	94	100	96	97	80	93	m	m	m
				Upper secondary and post-secondary non-tertiary	100	96	98	99	100	99	m	m	m
				Tertiary education	99	100	100	97	92	94	m	m	m
				All levels of education	98	98	98	98	94	96	m	m	20
	Israel	2007	Q1	Below upper secondary	m	m	m	85	62	81	77	m	77
				Upper secondary and post-secondary non-tertiary	m	m	m	86	73	81	81	74	77
				Tertiary education	m	m	m	90	61	72	m	78	80
				All levels of education	m	m	m	87	67	78	81	76	78
	Slovenia	2007	Q1	Below upper secondary	62	63	62	100	93	99	m	m	m
				Upper secondary and post-secondary non-tertiary	67	64	66	99	92	96	29	41	38
				Tertiary education	71	52	58	94	97	96	71	51	61
				All levels of education	67	60	64	98	93	96	47	41	43

Source: OECD, LSO Network, special data collection, Monitoring Transition Systems Working Group. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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Table C3.7.

Education and occupational mismatches for young individuals (2003, 2007)

Proportion of 25-29 year-olds not in education with upper secondary education working in elementary occupations and proportion of 25-29 year-olds not in education with tertiary education working in semi-skilled occupations, by gender

				Ratio of 25-29 year-old workers not in education with an upper secondary education, working at skill level 1 (ISCO 9) to all 25-29 year-old workers not in education with an upper secondary education			Ratio of 25-29 year-old workers not in education with a tertiary education degree, working at skill levels 1 or 2 (ISCO 4-9) to all 25-29 year-old workers not in education with a tertiary education		
				Males	Females	M + F	Males	Females	M + F
				(1)	(2)	(3)	(4)	(5)	(6)
OECD countries	Australia	2007	QX	4	4	4	25	23	24
		2003		7	4	6	23	26	25
	Austria	2007	Q1	9	8	9	24	16	19
		2003		5	3	4	23	15	19
	Belgium	2007	Q1	12	11	12	23	24	24
		2003		m	m	m	m	m	m
	Canada	2007	Q1	11	8	10	42	34	37
		2003		10	8	9	44	36	39
	Czech Republic	2007	Q1	4	2	3	5	8	7
		2003		3	4	3	7	9	8
	Denmark	2007	Q1	4	4	4	13	16	15
		2003		6	5	6	14	14	14
	Finland	2007	Q1	8	8	8	15	19	18
		2003		10	12	11	13	28	22
	France	2007	Q1	9	9	9	22	34	29
		2003		8	7	7	21	29	25
	Germany	2007	Q1	6	4	5	24	17	20
		2003		5	4	5	26	19	22
	Greece	2007	Q1	3	2	3	30	22	25
		2003		5	3	4	33	25	28
	Hungary	2007	Q1	4	5	5	11	15	13
		2003		3	5	4	13	11	12
	Iceland	2007	Q1	3	6	4	11	21	17
		2003		3	13	7	9	31	21
	Ireland	2007	Q1	11	7	10	40	38	39
		2003		9	4	7	30	35	33
	Italy	2007	Q1	5	5	5	17	28	24
		2003		m	m	m	m	m	m
	Luxembourg	2007	Q1	0	7	4	4	2	3
		2003		2	3	2	2	1	1
	Netherlands	2007	Q1	4	5	5	17	16	17
		2003		4	4	4	18	16	17
	New Zealand	2007	Q2	3	3	3	38	29	33
		2003		m	m	m	m	m	m
	Norway	2007	Q1	3	4	3	22	23	22
		2003		3	6	4	22	15	18
	Poland	2007	Q1	8	11	9	23	31	28
		2003		m	m	m	m	m	m
	Portugal	2007	Q1	5	12	9	21	22	21
		2003		m	m	m	m	m	m
	Slovak Republic	2007	Q1	10	8	9	11	15	13
		2003		7	5	6	16	13	14
	Spain	2007	Q1	14	21	17	47	41	44
		2003		16	21	19	48	42	45
	Sweden	2007	Q1	5	8	6	19	16	17
		2003		3	6	5	11	12	11
	Switzerland	2007	Q2	3	5	4	27	18	23
		2003		4	3	3	27	17	23
	Turkey	2007	Q1	9	6	9	30	22	27
		2003		m	m	m	m	m	m
	United Kingdom	2007	Q1	15	7	12	24	28	26
		2003		m	m	m	m	m	m
	United States	2007	Q3	6	3	4	36	30	33
		2003		6	2	4	34	29	32
	OECD average	*2007*		*7*	*7*	*7*	*23*	*22*	*23*
		2003		*6*	*6*	*6*	*22*	*21*	*21*
Partner countries	Estonia	2007	Q1	10	5	8	8	19	15
		2003		10	10	10	3	16	11
	Israel	2007	Q1	9	9	9	32	37	35
		2003		9	7	8	35	32	34
	Slovenia	2007	Q1	3	4	3	16	12	13
		2003		2	2	2	6	11	9

Source: OECD, LSO Network, special data collection, Monitoring Transition Systems Working Group. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
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Chapter

D

The Learning Environment and Organisation of Schools

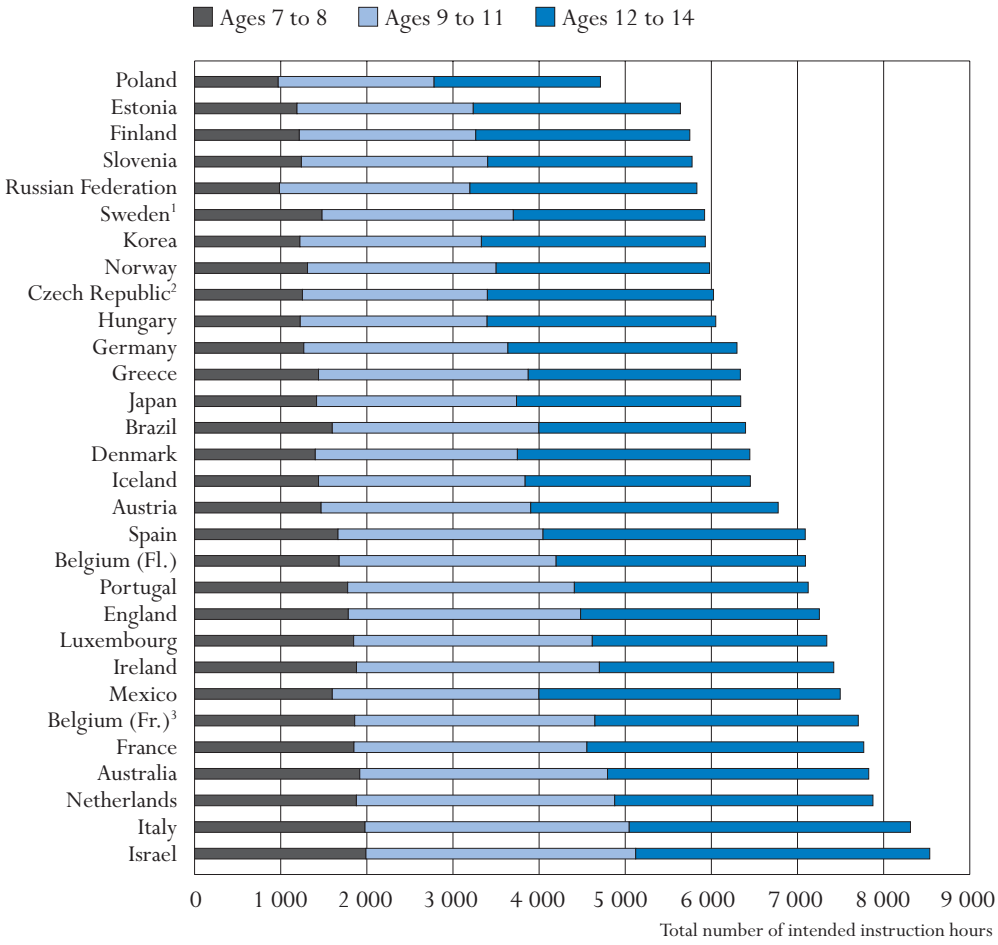
HOW MUCH TIME DO STUDENTS SPEND IN THE CLASSROOM?

This indicator examines the amount of instruction time students are expected to receive between the ages of 7 and 15. It also discusses how instruction time is allocated to different curriculum areas.

Key results

Chart D1.1. Total number of intended instruction hours in public institutions between the ages of 7 and 14 (2008)

Students in OECD countries are expected to receive, on average, 6 777 hours of instruction between the ages of 7 and 14, of which 1 554 between ages 7 and 8, 2 467 between ages 9 and 11, and 2 755 between ages 12 and 14. The large majority of intended hours of instruction is compulsory.



1. Estimated because breakdown by age not available.
2. Minimum number of hours per year.
3. "Ages 12 to 14" covers ages 12 to 13 only.

Countries are ranked in ascending order of the total number of intended instruction hours.

Source: OECD. Table D1.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- In OECD countries, compulsory instruction time for 7-8 year-old students averages 759 hours per year and intended instruction time averages 777 hours per year. Students aged 9 to 11 receive about 43 compulsory hours more per year than 7-8 year-olds and students aged 12 to 14 receive about 85 hours more per year than 9-11 year-olds. Similarly, students aged 9 to 11 receive just over 45 intended hours more per year than 7-8 year-olds and students aged 12 to 14 receive 96 hours more per year than 9-11 year-olds.

- On average across OECD countries, the teaching of reading, writing and literature, mathematics and science represents 48% of the compulsory instruction time for 9-11 year-olds and 40% for 12-14 year-olds. For 9-11 year-olds, the proportion of compulsory curriculum devoted to reading, writing and literature varies widely, from 16% in Iceland to 30% or more in France, Mexico and the Netherlands.

D1

Policy context

Instruction time in formal classroom settings accounts for a large portion of the public investment in student learning and is a central component of effective schooling. The amount of instruction time available to students can determine the amount of formal classroom teaching they receive and therefore their opportunities for effective learning. It is also central to education policy decision making. Matching resources with students' needs and making optimal use of time are major challenges for education policy. The main costs of education are the use and deployment of teacher resources, institutional maintenance and other educational resources. The length of time during which these resources are made available to students (as partly shown in this indicator) is thus an important factor in the allocation of funding (see Indicator B7).

Countries make various choices concerning the overall length of time to be devoted to instruction and which subjects should be compulsory for students. These choices reflect national and/or regional priorities and preferences for the education students receive at different ages and the emphasis placed on different subject areas. Countries usually have statutory or regulatory requirements regarding hours of instruction. These are most often stipulated as the minimum number of hours of instruction a school must offer. Central to the setting of minimum levels is the view that sufficient teaching time is essential to productive learning outcomes.

Evidence and explanations

What this indicator shows

Intended instruction time is an important indicator of students' opportunity to learn and of the public resources invested in education. This indicator captures intended instruction time, as established in public regulations, as a measure of exposure to learning in formal classroom settings. It does not show the actual number of hours of instruction received by students and does not cover learning outside of the formal classroom setting. Differences may exist across countries between the regulatory minimum hours of instruction and the actual hours of instruction received by students. There is research showing that, owing to factors such as school timetable decisions, lesson cancellations and teacher absenteeism, schools may not consistently reach the regulatory minimum instruction time (see Box D1.1 in *Education at a Glance 2007*).

The indicator also illustrates how minimum instruction times are allocated across different curricular areas. It shows the intended net hours of instruction for those grades in which the majority of students are between 7 and 15 years old. Although the data are difficult to compare among countries because of different curriculum policies, they nevertheless provide an indication of how much formal instruction time is considered necessary for students to achieve the desired educational goals.

Total intended instruction time: an average of 6 777 hours between the ages of 7 and 14

Total intended instruction time is an estimate of the number of hours during which students are taught both compulsory and non-compulsory parts of the curriculum as per public regulations.

In OECD countries, intended instruction time for students between the ages of 7 and 14 averages a total of 6 777 hours. However, formal requirements regarding intended instruction time range

from 4 715 hours in Poland to over 8 000 hours in Italy and the partner country Israel. During these hours, schools are obliged to offer instruction in compulsory and non-compulsory subjects. The total intended instruction time for this age range is a good indicator of students' theoretical workload in school, but it cannot be interpreted as the actual instruction students receive during the years they spend in initial education.

In some countries with a heavier student workload, the age band of compulsory education is smaller and students drop out of the school system earlier; in other countries a more even distribution of student workload and study time over more years ultimately means a larger number of total instruction hours for all. Table D1.1 shows the age range for which over 90% of the population is in education (see Indicator C1) and Chart D1.1 shows the total amount of intended instruction time students should receive between the ages of 7 and 14. Intended instruction time does not capture the quality of learning opportunities provided or the level or quality of the human and material resources involved. (For some insight into human resources, see Indicator D2, which shows the number of teachers relative to the student population.)

In some countries, intended instruction time varies considerably among regions or types of schools. In many countries, local education authorities or schools can determine the number and allocation of hours of instruction. Intended instruction time can also differ from the actual instruction time. Additional teaching time is often planned for individual remedial teaching or curriculum enhancement. On the other hand, time may be lost because of student absences or a lack of qualified substitutes to replace absent teachers.

Annual instruction time should be examined together with the length of compulsory education, *i.e.* the period of time during which young people receive full-time educational support from public resources, and during which more than 90% of the population participates in education (see Indicator C1).

Compulsory instruction time: an average of 6 582 hours between the ages of 7 and 14

Total compulsory instruction time is an estimate of the number of hours during which students are taught both the compulsory core and compulsory flexible parts of the curriculum.

Intended instruction time is fully compulsory for all age groups between 7 and 14 years in the Czech Republic, Denmark, England, Germany, Greece, Iceland, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Spain, Sweden and the partner countries Brazil, Estonia, the Russian Federation and Slovenia. Except for England, Luxembourg, Mexico, the Netherlands and Spain, these countries have a total length of intended instruction time that is below the OECD average. Intended instruction time is also fully compulsory at age 15 in these 14 countries, with the exception of Japan and the Netherlands for which data are missing. In Australia, France and Ireland, although total intended instruction time is fully compulsory for 7-8 year-olds and 9-11 year-olds, this is not the case for the older age groups.

Within the formal education system, OECD countries report an average annual total compulsory instruction time in classroom settings of 759 hours for 7-8 year-olds, 802 hours for 9-11 year-olds and 886 hours for 12-14 year-olds. The average annual number of compulsory instruction hours is 902 for the typical programme in which most 15-year-olds are enrolled (Table D1.1).

D1

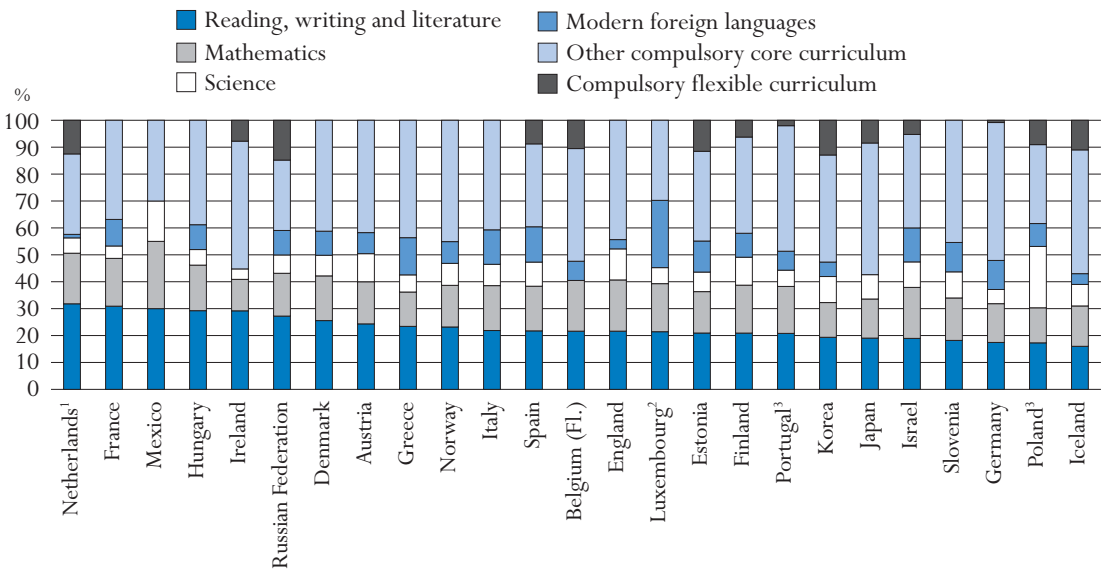
Teaching of reading and writing, mathematics and science: on average, at least 48% and 40% of compulsory instruction time for 9-11 year-olds and 12-14 year-olds, respectively

In OECD countries, study areas for 9-11 year-olds are not necessarily organised as separate classes. Students at this age spend an average of 48% of the compulsory curriculum on three basic subject areas: reading, writing and literature (23%), mathematics (16%) and science (9%). On average, an additional 8% of the compulsory curriculum is devoted to each modern foreign languages and social studies. Together with the arts (12%) and physical education (9%), these seven study areas form the major part of the curriculum for this age cohort in all OECD and partner countries with available data. Ancient Greek and/or Latin, technology, religion, practical and vocational skills and other make up the remainder (11%) of the compulsory core curriculum for 9-11 year-olds (Table D1.2a and Chart D1.2a).

On average, reading and writing account for the greatest proportion of the curriculum for 9-11 year-olds, but the differences among countries are greater than for other subjects; this subject area accounts for 16% of compulsory instruction time in Iceland, compared with 30% or more in France, Mexico and the Netherlands. There are also sizeable variations in the time spent learning modern foreign languages, which accounts for 3% or less in England, Japan, Mexico and the Netherlands, but 25% of total compulsory instruction time in Luxembourg and over 10% in Germany, Greece, Italy, Spain and the partner countries Estonia, Israel and Slovenia.

Chart D1.2a. Instruction time per subject as a percentage of total compulsory instruction time for 9-11 year-olds (2008)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum



1. Includes 11-year-olds only.
2. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
3. Includes 10-11 year-olds only.

Countries are ranked in descending order of the proportion of intended instruction hours devoted to reading, writing and literature.
Source: OECD. Table D1.2a. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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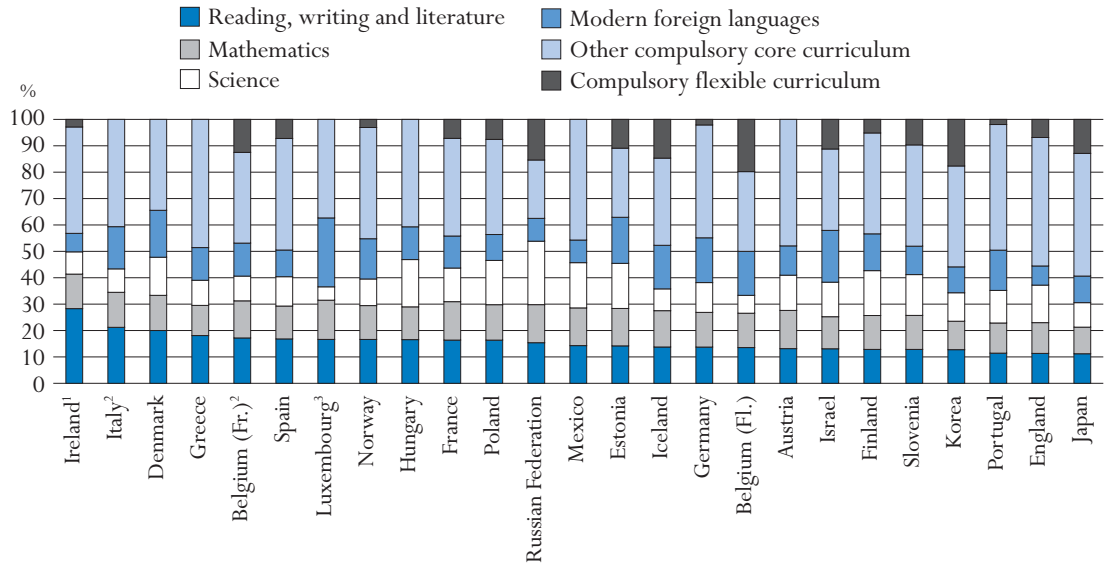
In OECD countries, an average of 40% of the compulsory curriculum for 12-14 year-olds is devoted to three subject areas: reading, writing and literature (16%), mathematics (13%) and science (12%). For this age group compared with the younger age group, a relatively larger part of the curriculum is devoted to modern foreign languages (13%) and social studies (12%), and somewhat less time is devoted to the arts (8%) and physical education (8%). Together, these seven study areas form the major part of the compulsory curriculum for lower secondary students in all OECD countries and partner countries. Ancient Greek and/or Latin, technology, religion, practical and vocational skills and other make up the remainder (12%) of the compulsory core curriculum for 12-14 year-olds (Table D1.2b and Chart D1.2b).

Chart D1.2b. Instruction time per subject as a percentage of total compulsory instruction time for 12-14 year-olds (2008)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum



1. For 13-14 year-olds, arts is included in non-compulsory curriculum.
2. Includes 12-13 year-olds only.
3. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.

Countries are ranked in descending order of the proportion of intended instruction hours devoted to reading, writing and literature.
Source: OECD. Table D1.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Among countries, the allocation of time for the different subjects within the compulsory curriculum for 12-14 year-olds varies less than for 9-11 year-olds. These differences reflect different national and curriculum priorities. The greatest variation is again in reading and writing, which ranges from 11% of compulsory instruction time in England, Japan and Portugal to 28% in Ireland (where reading and writing includes work in both English and Irish).

There is also substantial variation in the percentage of compulsory instruction time devoted to particular subjects for 9-11 year-olds compared to 12-14 year-olds. On average among OECD countries, 12-14 year-olds spend one-third less time studying reading, writing and literature

than 9-11 year-olds. Conversely, time spent on science, social studies, modern foreign languages, technology and practical and vocational skills increases with students' age. These differences are larger in some countries than in others. The percentage of compulsory instruction time devoted to reading, writing and literature for 12-14 year-olds is around one-half that for 9-11 year-olds in England, France and Mexico. Yet in Ireland and Italy the difference is less than 5%. Clearly, countries place different emphases both on subjects and on when they should be taught to students.

Among OECD countries, the non-compulsory part of the curriculum comprises on average 3% of the total intended instruction time for 9-11 year-olds and 5% of the total intended instruction time for 12-14 year-olds. Nevertheless, a considerable amount of additional non-compulsory instruction time is sometimes provided. For 9-11 year-olds, all intended instruction time is compulsory in most countries, but additional non-compulsory time is as much as 11% in Belgium (French Community), 20% in Hungary, 12% in Italy and 13% in the partner country Israel. For 12-14 year-olds, non-compulsory instruction time is a feature in Australia, Austria, Belgium (French Community), Finland, France, Hungary, Ireland, Italy, Poland, Portugal and the partner country Israel and ranges from 3% in Portugal to 32% in Hungary (Tables D1.2a and D1.2b).

On average, 4% of compulsory instruction time belongs to the flexible part of the curriculum in the grades where most students are 9 to 11 years of age; the corresponding proportion is 8% for students aged 12 to 14. Most OECD countries define the number of hours of compulsory instruction. Within the compulsory part of the curriculum, students have varying degrees of freedom to choose the subjects they want to study. Australia allows the greatest flexibility in the compulsory curriculum with 57% for 9-11 year-olds and 41% for 12-14 year-olds. Several other countries allow 10% or more flexibility in the compulsory curriculum for 12-14 year-olds (Belgium, Iceland, Japan, Korea and the partner countries Estonia, Israel, the Russian Federation and Slovenia) (Tables D1.2a and D1.2b).

Definitions and methodologies

Data on instruction time are from the 2009 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2007-08.

Instruction time for 7-15 year-olds refers to the formal number of 60-minute hours per school year organised by the school for class instructional activities for students in the reference school year 2007-08. For countries with no formal policy on instruction time, the number of hours is estimated from survey data. Hours lost when schools are closed for festivities and celebrations, such as national holidays, are excluded. Intended instruction time does not include non-compulsory time outside the school day, homework, individual tutoring, or private study done before or after school.

Intended instruction time refers to the number of hours per year during which students receive instruction in the compulsory and non-compulsory parts of the curriculum.

The compulsory curriculum refers to the amount and allocation of instruction time that almost every public school must provide and almost all public-sector students must attend. The measurement of the time devoted to specific study areas (subjects) focuses on the minimum common core rather than on the average time spent, since the data sources (policy documents) do not allow for more precise measurement. The total compulsory curriculum comprises the compulsory core curriculum as well as the compulsory flexible curriculum.

The non-compulsory part of the curriculum refers to the average time of instruction to which students are entitled beyond the compulsory hours of instruction. These subjects often vary from school to school or from region to region, and may take the form of non-compulsory (elective) subjects.

In Table D1.1, typical instruction time for 15-year-olds refers to the programme in which most students at this age are enrolled. The programme may take place in lower or upper secondary education, and in most countries consists of a general programme. If the system channels students into different programme types at this age, the average instruction time may have been estimated for the most important mainstream programmes and weighted by the proportion of students in the grade in which most 15-year-olds are enrolled. When vocational programmes are also taken into account in typical instruction time, only the school-based part of the programme should be included in the calculations.

Instruction time for the least demanding programmes refers to programmes for students who are least likely to continue studying beyond the mandatory school age or beyond lower secondary education. Such programmes may or may not exist depending on a country's streaming and selection policies. In many countries students are offered the same amount of instruction time in all or most programmes, but there is flexibility in the choice of study areas or subjects. Often such choices have to be made quite early in the student's school career if programmes are long and differ substantially.

Further references

Specific notes on definitions and methodologies for each country related to this indicator are given in Annex 3 at *www.oecd.org/edu/eag2010*.

Table D1.1.

Compulsory and intended instruction time in public institutions (2008)

Average number of hours per year of total compulsory and non-compulsory instruction time in the curriculum for 7-8, 9-11, 12-14 and 15 year-olds

		Age range at which over 90% of the population are enrolled	Average number of hours per year of total compulsory instruction time					Average number of hours per year of total intended instruction time				
			Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (least demanding programme)	Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (least demanding programme)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	5-16	959	959	968	937	937	959	959	1 011	992	992
	Austria	5-16	690	767	913	1 005	960	735	812	958	1 050	1 005
	Belgium (Fl.)	3-17	a	a	a	a	a	840	840	965	965	453
	Belgium (Fr.)[1]	3-17	840	840	960	m	m	930	930	1 020	m	m
	Chile	6-15	m	m	m	m	m	m	m	m	m	m
	Czech Republic[2]	5-17	627	716	876	955	687	627	716	876	955	687
	Denmark	3-16	701	783	900	930	900	701	783	900	930	900
	England	4-16	893	899	925	950	a	893	899	925	950	a
	Finland	6-18	608	640	777	856	a	608	683	829	913	a
	France	3-17	926	902	978	1 048	a	926	902	1 072	1 153	a
	Germany	4-17	635	790	887	896	m	635	790	887	896	m
	Greece	6-16	720	812	821	798	a	720	812	821	798	a
	Hungary	4-17	555	601	671	763	763	614	724	885	1 106	1 106
	Iceland	3-16	720	800	872	888	a	720	800	872	888	a
	Ireland	5-18	941	941	848	802	713	941	941	907	891	891
	Italy	3-16	891	913	1 001	1 089	m	990	1 023	1 089	1 089	m
	Japan	4-17	709	774	868	m	a	709	774	868	m	a
	Korea	6-16	612	703	867	1 020	a	612	703	867	1 020	a
	Luxembourg	4-15	924	924	908	900	a	924	924	908	900	a
	Mexico	4-14	800	800	1 167	1 058	a	800	800	1 167	1 058	a
	Netherlands	4-17	940	1 000	1 000	m	a	940	1 000	1 000	m	a
	New Zealand	4-15	m	m	m	m	m	m	m	m	m	m
	Norway	3-17	656	730	826	858	a	656	730	826	858	a
	Poland	6-18	446	563	604	595	a	486	603	644	635	a
	Portugal	5-16	855	849	880	872	m	889	878	905	923	m
	Scotland	4-16	a	a	a	a	a	a	a	a	a	a
	Slovak Republic	6-17	m	m	m	m	m	m	m	m	m	m
	Spain	3-16	833	794	1 015	979	978	833	794	1 015	979	978
	Sweden[3]	4-18	741	741	741	741	a	741	741	741	741	a
	Switzerland	5-16	m	m	m	m	m	m	m	m	m	m
	Turkey	7-13	m	m	m	m	m	m	m	m	m	m
	United States	6-16	m	m	m	m	m	m	m	m	m	m
	OECD average		*759*	*802*	*886*	*902*	*848*	*777*	*822*	*918*	*941*	*876*
	EU19 average		*765*	*804*	*872*	*886*	*833*	*788*	*831*	*913*	*934*	*860*
Partner countries	Brazil	7-15	800	800	800	800	800	800	800	800	800	800
	China	m	531	613	793	748	m	m	m	m	m	m
	Estonia	4-17	595	683	802	840	m	595	683	802	840	m
	India	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	551	654	m	m	m	m	m	m	m
	Israel	5-16	878	927	999	1 036	952	996	1 044	1 139	1 176	1 092
	Russian Federation	7-16	493	737	879	886	m	493	737	879	886	m
	Slovenia	6-17	621	721	791	908	888	621	721	791	908	888

1. "Ages 12-14" covers ages 12-13 only.
2. Minimum number of hours per year.
3. Estimated because breakdown by age not available.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The Ministry of Education, *Notes on the Experimental Curriculum of Compulsory Education,* 19 November 2001. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table D1.2a.

Instruction time per subject as a percentage of total compulsory instruction time for 9-11 year-olds (2008)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum

		Compulsory core curriculum															
		Reading, writing and literature	Mathematics	Science	Social studies	Modern foreign languages	Ancient Greek and/or Latin	Technology	Arts	Physical education	Religion	Practical and vocational skills	Other	Total compulsory core curriculum	Compulsory flexible curriculum	TOTAL compulsory curriculum	Non-compulsory curriculum
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD countries	Australia[1]	m	m	m	m	m	m	m	m	m	m	m	m	**43**	57	**100**	n
	Austria	24	16	10	3	8	n	n	18	10	8	x(12)	3	**100**	x(12)	**100**	6
	Belgium (Fl.)[1]	22	19	x(12)	x(12)	7	n	n	10	7	7	n	18	**89**	11	**100**	n
	Belgium (Fr.)[1]	x(12)	x(12)	x(12)	x(12)	5	n	x(12)	x(12)	7	7	n	81	**100**	n	**100**	11
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Denmark	26	17	8	4	9	n	n	20	10	4	n	3	**100**	n	**100**	n
	England	22	19	12	9	3	n	11	9	7	4	1	3	**100**	n	**100**	n
	Finland	21	18	10	2	9	n	n	19	9	5	n	n	**94**	6	**100**	7
	France	31	18	5	10	10	n	3	11	13	n	n	n	**100**	n	**100**	n
	Germany	17	14	5	6	11	n	1	15	11	7	n	12	**99**	1	**100**	n
	Greece	23	13	6	16	14	n	n	7	6	6	n	7	**100**	n	**100**	n
	Hungary	29	17	6	7	9	n	n	14	12	n	5	2	**100**	n	**100**	20
	Iceland	16	15	8	8	4	n	6	12	9	3	5	3	**89**	11	**100**	n
	Ireland	29	12	4	8	x(14)	n	n	12	4	10	n	14	**92**	8	**100**	n
	Italy[2]	22	17	8	11	13	n	2	14	7	6	n	n	**100**	n	**100**	12
	Japan	19	15	9	9	n	n	n	10	9	n	n	21	**92**	8	**100**	m
	Korea	19	13	10	10	5	n	2	13	10	n	2	3	**87**	13	**100**	n
	Luxembourg[3]	21	18	6	2	25	n	n	11	10	7	n	n	**100**	n	**100**	n
	Mexico	30	25	15	20	n	n	n	5	5	n	n	n	**100**	n	**100**	n
	Netherlands[4]	32	19	6	6	1	n	n	9	7	5	3	n	**88**	13	**100**	n
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Norway	23	15	8	10	8	n	n	15	9	8	n	3	**100**	n	**100**	n
	Poland[5]	17	13	23	8	9	n	4	4	13	n	n	n	**91**	9	**100**	7
	Portugal[5, 6]	21	17	6	11	7	n	x(8)	12	6	n	n	18	**98**	2	**100**	3
	Scotland	a	a	a	a	a	a	a	a	a	a	a	a	**a**	a	**a**	a
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Spain	22	17	9	9	13	n	n	11	11	x(14)	n	n	**91**	9	**100**	n
	Sweden	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	United States	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	OECD average[1]	***23***	***16***	***9***	***8***	***8***	***n***	***2***	***12***	***9***	***4***	***1***	***5***	***96***	***4***	***100***	***3***
	EU19 average[1]	***24***	***16***	***8***	***7***	***10***	***n***	***2***	***12***	***9***	***4***	***1***	***4***	***97***	***3***	***100***	***4***
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	China	20-22	13-15	7-9	3-4	6-8	m	m	9-11	10-11	m	16-20	7-9	**m**	m	**m**	m
	Estonia	21	15	7	6	12	n	4	9	10	n	n	4	**88**	12	**100**	n
	India	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Indonesia	11	11	9	7	a	n	a	9	9	7	4	4	**100**	x(13)	**100**	4
	Israel	19	19	9	13	13	n	n	6	6	6	n	3	**95**	5	**100**	13
	Russian Federation	27	16	7	6	9	n	7	7	7	n	n	n	**85**	15	**100**	n
	Slovenia	18	16	10	8	11	n	2	11	11	n	3	10	**100**	n	**100**	n

1. Australia, Belgium (Fl.) and Belgium (Fr.) are not included in the averages.
2. For 9 and 10 year-olds the curriculum is largely flexible, for 11 year-olds it is about the same as for 12 and 13 year-olds.
3. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
4. Includes 11 year-olds only.
5. Includes 10-11 year-olds only.
6. For 9 year-olds, technology, arts and practical and vocational skills are included in other.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The Ministry of Education, *Notes on the Experimental Curriculum of Compulsory Education,* 19 November 2001. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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D1

Table D1.2b.

Instruction time per subject as a percentage of total compulsory instruction time for 12-14 year-olds (2008)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum

		Compulsory core curriculum															
		Reading, writing and literature	Mathematics	Science	Social studies	Modern foreign languages	Ancient Greek and/or Latin	Technology	Arts	Physical education	Religion	Practical and vocational skills	Other	Total compulsory core curriculum	Compulsory flexible curriculum	Total compulsory curriculum	Non-compulsory curriculum
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD countries	Australia[1]	m	m	m	m	m	m	m	m	m	m	m	m	**59**	41	**100**	5
	Austria	13	14	13	12	11	1	n	16	10	7	2	n	**100**	x(12)	**100**	5
	Belgium (Fl.)	14	13	7	9	17	n	4	4	6	6	1	n	**80**	20	**100**	n
	Belgium (Fr.)[2]	17	14	9	13	13	x(14)	3	3	9	6	n	n	**88**	13	**100**	6
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Denmark	20	13	14	9	18	n	n	11	8	3	n	3	**100**	n	**100**	n
	England	11	12	14	12	7	n	12	9	7	4	3	2	**93**	7	**100**	n
	Finland	13	13	17	7	14	n	n	15	7	5	4	n	**95**	5	**100**	7
	France	16	15	13	13	12	n	6	7	11	n	n	n	**93**	7	**100**	10
	Germany	14	13	11	12	17	n	3	10	9	5	2	2	**98**	2	**100**	n
	Greece	18	11	10	12	12	9	5	6	8	6	3	1	**100**	n	**100**	n
	Hungary	17	12	18	12	12	n	3	10	9	n	3	3	**100**	n	**100**	32
	Iceland	14	14	8	6	17	n	4	7	8	2	4	3	**85**	15	**100**	n
	Ireland[3]	28	13	8	17	7	n	x(16)	4	5	9	x(16)	5	**97**	3	**100**	7
	Italy[2]	21	13	9	11	16	n	7	13	6	3	n	n	**100**	n	**100**	14
	Japan	11	10	9	9	10	n	3	7	9	n	n	18	**87**	13	**100**	m
	Korea	13	11	11	10	10	n	4	8	8	n	4	5	**82**	18	**100**	n
	Luxembourg[4]	17	15	5	10	26	n	n	10	8	6	n	3	**100**	n	**100**	n
	Mexico	14	14	17	23	9	n	n	6	6	n	9	3	**100**	n	**100**	n
	Netherlands	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Norway	17	13	10	11	15	n	n	11	9	7	n	5	**97**	3	**100**	n
	Poland	16	13	17	15	10	n	4	4	13	n	n	n	**92**	8	**100**	7
	Portugal[5]	11	11	12	13	15	n	4	7	9	n	n	15	**98**	2	**100**	3
	Scotland	a	a	a	a	a	a	a	a	a	a	a	a	**a**	a	**a**	a
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Spain	17	12	11	10	10	n	7	10	7	x(14)	n	8	**93**	7	**100**	n
	Sweden	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	United States	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	OECD average[1]	*16*	*13*	*12*	*12*	*13*	*n*	*3*	*8*	*8*	*3*	*2*	*4*	*97*	*8*	*100*	*5*
	EU19 average[1]	*16*	*13*	*12*	*12*	*14*	*n*	*4*	*9*	*8*	*4*	*1*	*3*	*95*	*5*	*100*	*6*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Estonia	14	14	17	7	17	n	5	7	7	n	n	n	**89**	11	**100**	n
	India	m	m	m	m	m	m	m	m	m	m	m	m	**m**	m	**m**	m
	Indonesia	13	13	13	12	9	n	4	8	8	7	6	6	**100**	x(13)	**100**	6
	Israel	13	12	13	16	20	n	n	n	6	6	n	4	**89**	11	**100**	14
	Russian Federation	15	14	24	9	9	n	3	4	6	n	1	n	**85**	15	**100**	n
	Slovenia	13	13	15	15	11	n	2	6	6	n	n	9	**90**	10	**100**	n

1. Australia is not included in the averages.
2. Includes 12-13 year-olds only.
3. For 13-14 year-olds, arts is included in non-compulsory curriculum.
4. German as a language of instruction is included in "Reading, writing and literature" in addition to the mother tongue Luxemburgish.
5. Technology is included in Arts for 14 year-olds.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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INDICATOR D2

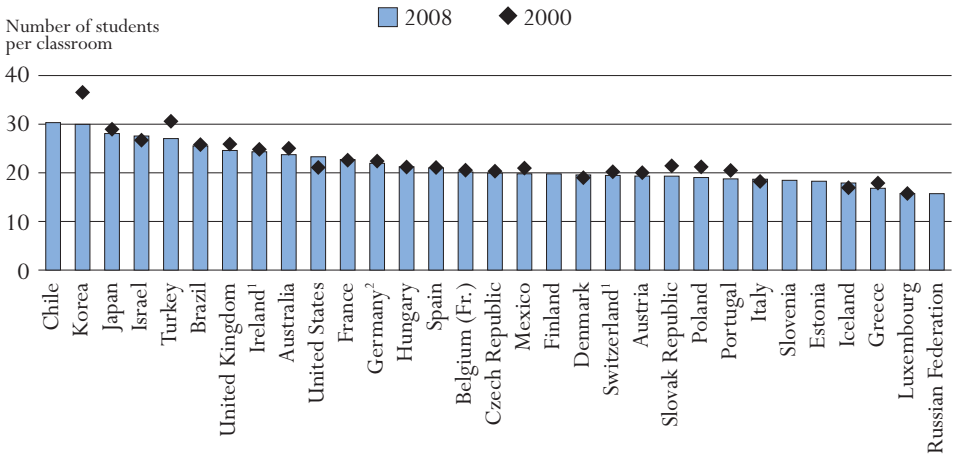
WHAT IS THE STUDENT-TEACHER RATIO AND HOW BIG ARE CLASSES?

This indicator examines the number of students per class at the primary and lower secondary levels, the ratio of students to teaching staff at all levels, including a breakdown by type of institutions. Class size and student-teacher ratios are much-discussed aspects of the education students receive and – along with students' total instruction time (see Indicator D1), teachers' average working time (see Indicator D4) and the division of teachers' time between teaching and other duties – are among the determinants of the size of countries' teaching force. Class size and the ratio of students to teaching staff, together with teachers' salaries (see Indicator D3) and the age distribution of teachers (see Indicator D7 available on line), also have a considerable impact on the level of current expenditure on education (see Indicator B6).

Key results

Chart D2.1. Average class size in primary education (2000, 2008)

The average class size in primary education is about 22 students per class, but varies from 30 or more in Chile and Korea to nearly half that number in Luxembourg and the partner country the Russian Federation. From 2000 to 2008, the average class size within countries decreased slightly, and differences in class size among OECD countries seemed to diminish. In two-thirds of the countries with comparable data for 2000 and 2008, class sizes have tended to decrease, but most notably in countries that had relatively large class sizes in 2000 (such as Korea and Turkey). On the contrary, class sizes have tended to increase in countries that had relatively small class sizes in 2000 (such as Iceland).



1. Public institutions only.
2. Years of reference 2001 and 2008.

Countries are ranked in descending order of the average class size in primary education in 2008.

Source: OECD. 2008 data: Table D2.1. 2000 data: Table D2.4 available on line. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- The average class size in lower secondary education is about 24 students per class, but varies from about 30 or more in Chile, Japan, Korea and the partner country Israel, to 20 or fewer in Denmark, Iceland, Luxembourg, Switzerland (public institutions), and the partner country the Russian Federation.
- Between primary and lower secondary education, the number of students per class increases by an average of more than two, whereas ratios of students to teaching staff tend to decrease owing to more annual instruction time, although this pattern is not uniform among countries.
- On average in OECD countries, the availability of teaching resources relative to the number of students in secondary education is more favourable in private than in public institutions. This is most striking in Mexico where, at the secondary level, there are around 14 more students per teacher in public institutions than in private ones. On average across OECD countries, at the lower secondary level, there is less than one student more per class in public than in private institutions.

D2

Policy context

Class size, education quality and education systems

Class size is a hotly debated topic and an important element of education policy in many OECD countries. Smaller classes are often perceived as allowing teachers to focus more on the needs of individual students and as reducing the amount of class time needed to deal with disruptions. Smaller class sizes may also influence parents when they choose schools for their children. In this respect, class size may be viewed as an indicator of the quality of the school system.

Yet evidence on the effects of differences in class size on student performance is mixed. In what has evolved as a contentious area of research, and one which has produced little in the way of consistent results, there is some evidence that smaller classes may have an impact upon specific groups of students (*e.g.* disadvantaged students) (Krueger, 2002).

A further reason for the mixed evidence on the impact of class size may be that class size does not vary enough to estimate the true effects of this variable on student performance. In addition, policies that group students who perform less satisfactorily into smaller classes in order to devote more attention to individual students may reduce the observed performance gains that might otherwise be expected from smaller classes. Finally, the fact that the relationship between class size and student performance is often non-linear makes the effects difficult to evaluate.

Many factors influence the interaction between teachers and students, and class size is only one of them. Other influences include the number of classes or students for which a teacher is responsible, the subject taught, the division of the teacher's time between teaching and other duties, the grouping of students within classes, the pedagogical approach employed and the practice of team teaching.

The ratio of students to teaching staff is also an important indicator of the resources devoted to education. A smaller ratio of students to teaching staff may have to be weighted against higher salaries for teachers, increased professional development and teacher training, greater investment in teaching technology, or more widespread use of assistant teachers and other paraprofessionals whose salaries are often considerably lower than those of qualified teachers. Moreover, as larger numbers of children with special educational needs are integrated into normal classes, more use of specialised personnel and support services may limit the resources available for reducing the ratio of students to teaching staff.

The ratio of students to teaching staff is obtained by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in similar types of institutions. However, this ratio does not take into account the amount of instruction time of students compared to the length of a teacher's working day nor how much time teachers spend teaching. It therefore cannot be interpreted in terms of class size (Box D2.1).

Evidence and explanations

Average class size in primary and lower secondary education

At the primary level, the average class size in OECD countries is about 22 students per class, but the number varies widely among countries. It ranges from 30 or more students per primary class in Chile and Korea to fewer than 20 in Austria, the Czech Republic, Denmark, Finland,

Greece, Iceland, Italy, Luxembourg, Mexico, Poland, Portugal, the Slovak Republic, Switzerland (public institutions) and the partner countries Estonia, the Russian Federation and Slovenia. At the lower secondary level (in general programmes), the average class size in OECD countries is about 24 students per class, although the number varies from more than 35 students per class in Korea to 20 or fewer in Denmark, Iceland, Luxembourg, Switzerland (public institutions) and the partner country the Russian Federation (Table D2.1). However there are between 22 and 25 students per classroom in one third of the OECD countries.

Box D2.1. Relationship between class size and ratio of students to teaching staff

The number of students per class results from a number of different elements: the ratio of students to teaching staff, the number of classes or students for which a teacher is responsible, the amount of instruction time of students compared to the length of teachers' working days, the proportion of time teachers spend teaching, the grouping of students within classes and team teaching.

For example, in a school of 48 full-time students and 8 full-time teachers, the ratio of students to teaching staff is 6. If teachers' working week is estimated to be 35 hours, including 10 hours teaching, and if instruction time for each student is 40 hours per week, then whatever the grouping of students in this school, average class size can be estimated as follows:

Estimated class size = 6 students per teacher * (40 hours of instruction time per student/ 10 hours of teaching per teacher) = 24 students.

Using a different approach, the class size presented in Table D2.1 is defined as the division of students who are following a common course of study, based on the highest number of common courses (usually compulsory studies), and excludes teaching in sub-groups. Thus, the estimated class size will be close to the average class size of Table D2.1 where teaching in sub-groups is less frequent (as is the case in primary and lower secondary education).

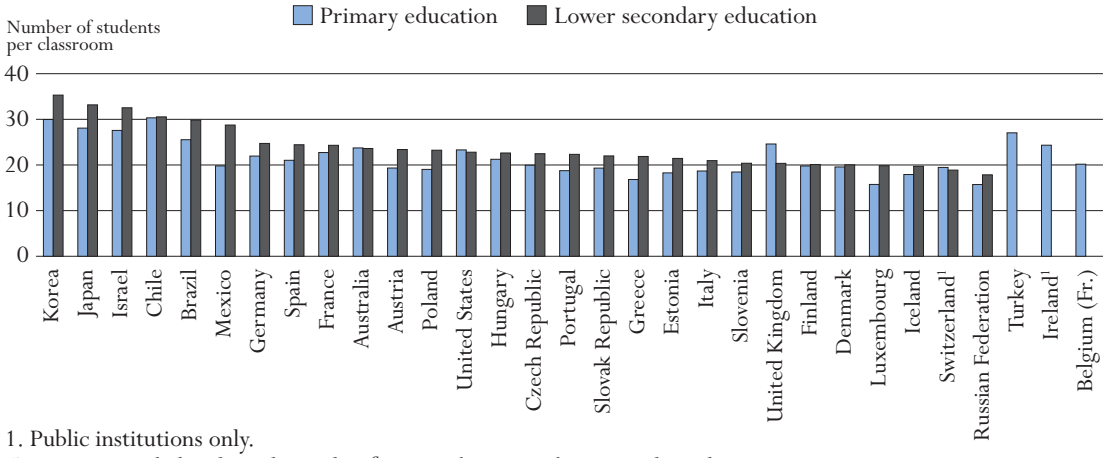
Because of these definitions, similar student-teacher ratios between countries can result in different class sizes. For example, in lower secondary education, France and Spain have similar average class sizes (24.3 students in France and 24.4 in Spain – Table D2.1), but the ratio of students to teaching staff differs substantially, with 14.6 students per teaching staff in France compared to 10.3 in the Spain (Table D2.2). The explanation may lie in the higher number of teaching hours required of teachers in Spain (644 in France and 713 in Spain – see Table D4.1) and lower instruction time for students in Spain (see Table D1.1).

The number of students per class tends to increase by an average of more than two students between primary and lower secondary education. In Austria, Greece, Japan, Korea, Luxembourg, Mexico, Poland and the partner countries Brazil and Israel, the increase in average class size exceeds four students, while the United Kingdom and, to a lesser extent, the United States, show a drop in the number of students per class between these two levels of education (Chart D2.2).

The indicator on class size is limited to primary and lower secondary education because class sizes are difficult to define and compare at higher levels, where students often attend several different classes, depending on the subject area.

Among OECD countries on average, between 2000 and 2008, average class size in primary education did not vary significantly (21.6 in 2008 as compared to 22.0 in 2000), even if there had been reforms on class sizes implemented in some countries in the last years (see Table B7.4). However, among countries with comparable data, class size decreased in countries that had larger class sizes in 2000 (for example in Korea and Turkey), whereas it increased (or stayed constant) in countries that had the smallest class sizes in 2000 (Iceland, Italy and Luxembourg). At the secondary level of education, the range of variations in class sizes between 2000 and 2008 similarly tended to narrow (Table D2.1 and Table D2.4 available on line).

Chart D2.2. Average class size in educational institutions, by level of education (2008)



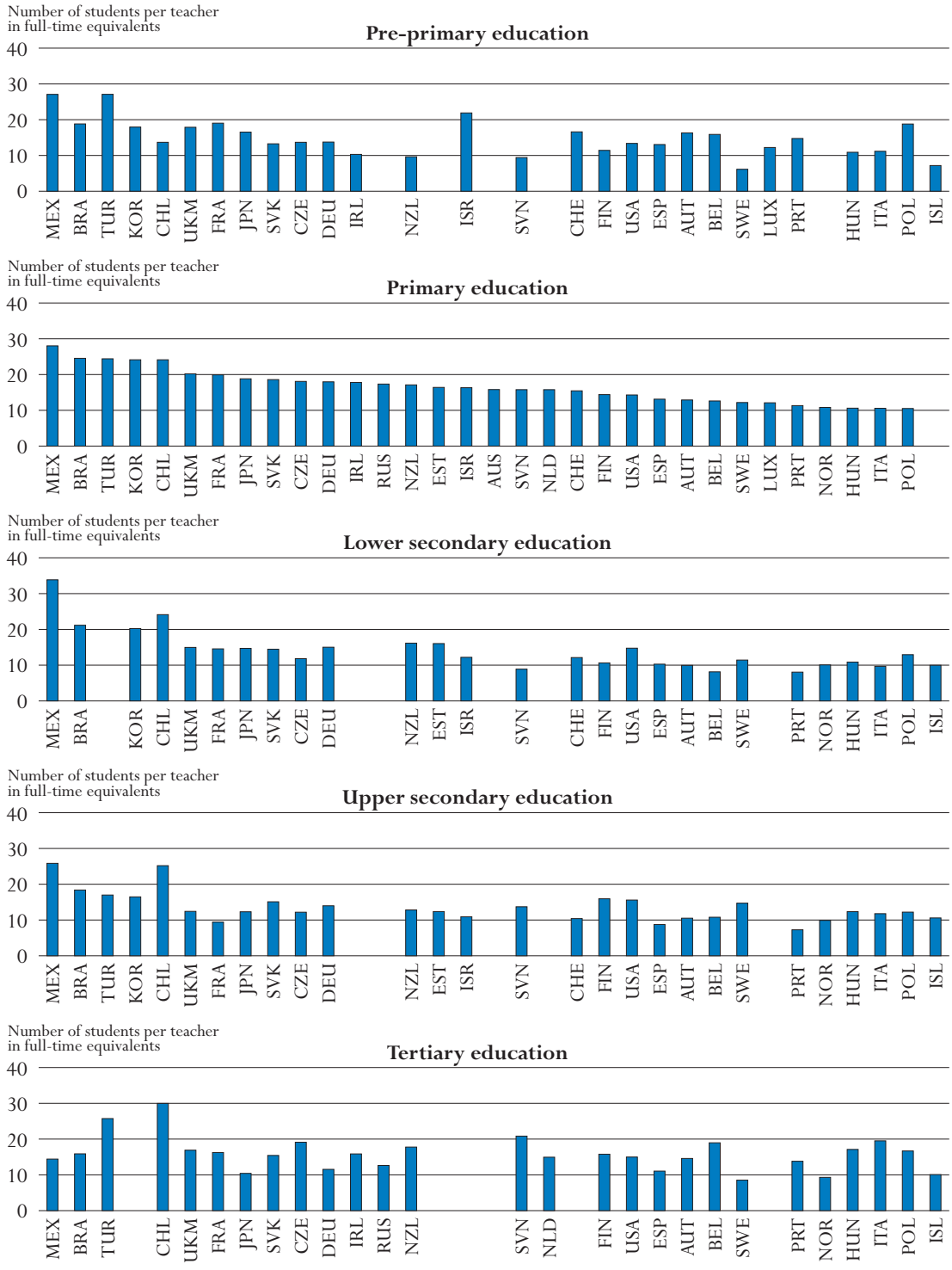
1. Public institutions only.
Countries are ranked in descending order of average class size in lower secondary education.
Source: OECD. Table D2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310491

Ratio of students to teaching staff

In primary education, the ratio of students to teaching staff, expressed in full-time equivalents, ranges from 24 students or more per teacher in Chile, Korea, Mexico, Turkey and the partner country Brazil, to fewer than 11 in Hungary, Italy, Norway and Poland. The OECD average in primary education is 16 students per teacher (Chart D2.3).

There is similar variation among countries in terms of the ratio of students to teaching staff at the secondary level. The range is from 30 students per full-time equivalent teacher in Mexico to fewer than 11 in Austria, Belgium, Iceland, Italy, Luxembourg, Norway, Portugal, Spain and the partner country the Russian Federation. On average among OECD countries, the ratio of students to teaching staff at the secondary level is 14, which is close to the ratio in 11 out of 29 OECD and 5 partner countries: Finland (14), Germany (15), Ireland (13), Japan (13), New Zealand (15), Poland (13), the Slovak Republic (15), Sweden (13), the United Kingdom (13), the United States (15) and the partner country Estonia (14) (Table D2.2).

Chart D2.3. Ratio of students to teaching staff in educational institutions, by level of education (2008)



Please refer to the Reader's Guide for the list of country codes used in this chart.
Countries are ranked in descending order of students to teaching staff ratios in primary education.
Source: OECD. Table D2.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310491

As the difference in the mean ratios of students to teaching staff between primary and secondary education indicates, there are fewer full-time equivalent students per full-time equivalent teacher at higher levels of education. The ratio of students to teaching staff decreases between primary and secondary education, despite a tendency for class sizes to increase. This was found to be true in all but eight OECD countries (Australia, Chile, Hungary, Italy, Mexico, Poland, the United Kingdom and the United States).

The decrease in the ratio of students to teaching staff from the primary to the secondary level reflects differences in annual instruction time, which tends to increase with the level of education. It may also result from delays in matching the teaching force to demographic changes, or from differences in teaching hours for teachers at different levels (which tends to decrease with level of education, whereas the subject specialism of teachers increases). The general trend is consistent among countries, but it is not obvious, from an educational perspective, why a smaller ratio of students to teaching staff should be more desirable at higher levels of education (Table D2.2).

Ratios of students to teaching staff in pre-primary education are shown in Table D2.2. For this level, information is also given on the ratio of students to contact staff (teachers and teachers' aides). Some countries make extensive use of teachers' aides at this level. Ten OECD countries and two partner countries reported smaller ratios of students to contact staff (Column 1 of Table D2.2) than of students to teaching staff. For the Czech Republic, Japan, the Slovak Republic, Sweden and the United Kingdom, this difference is not substantial. However, Austria, Chile, Germany, Ireland, the United States and the partner countries Brazil and Israel have larger numbers of teachers' aides. As a result, the ratios of students to contact staff are substantially lower than the ratios of students to teaching staff, particularly in Ireland and the partner country Israel.

At the tertiary level, the ratio of students to teaching staff ranges from 25 or more students per teacher in Chile and Turkey to fewer than 11 in Iceland, Japan, Norway and Sweden (Table D2.2). At this level, comparisons should be made with caution, however, since it is difficult to calculate full-time equivalent students and teachers on a comparable basis.

In 9 out of the 14 OECD and partner countries with comparable data, the ratio of students to teaching staff is lower in the more occupationally specific tertiary-type B programmes than in tertiary-type A and advanced research programmes (Table D2.2). Chile and Turkey are the only countries with a significantly higher ratio in tertiary-type B programmes.

Teaching resources in public and private institutions

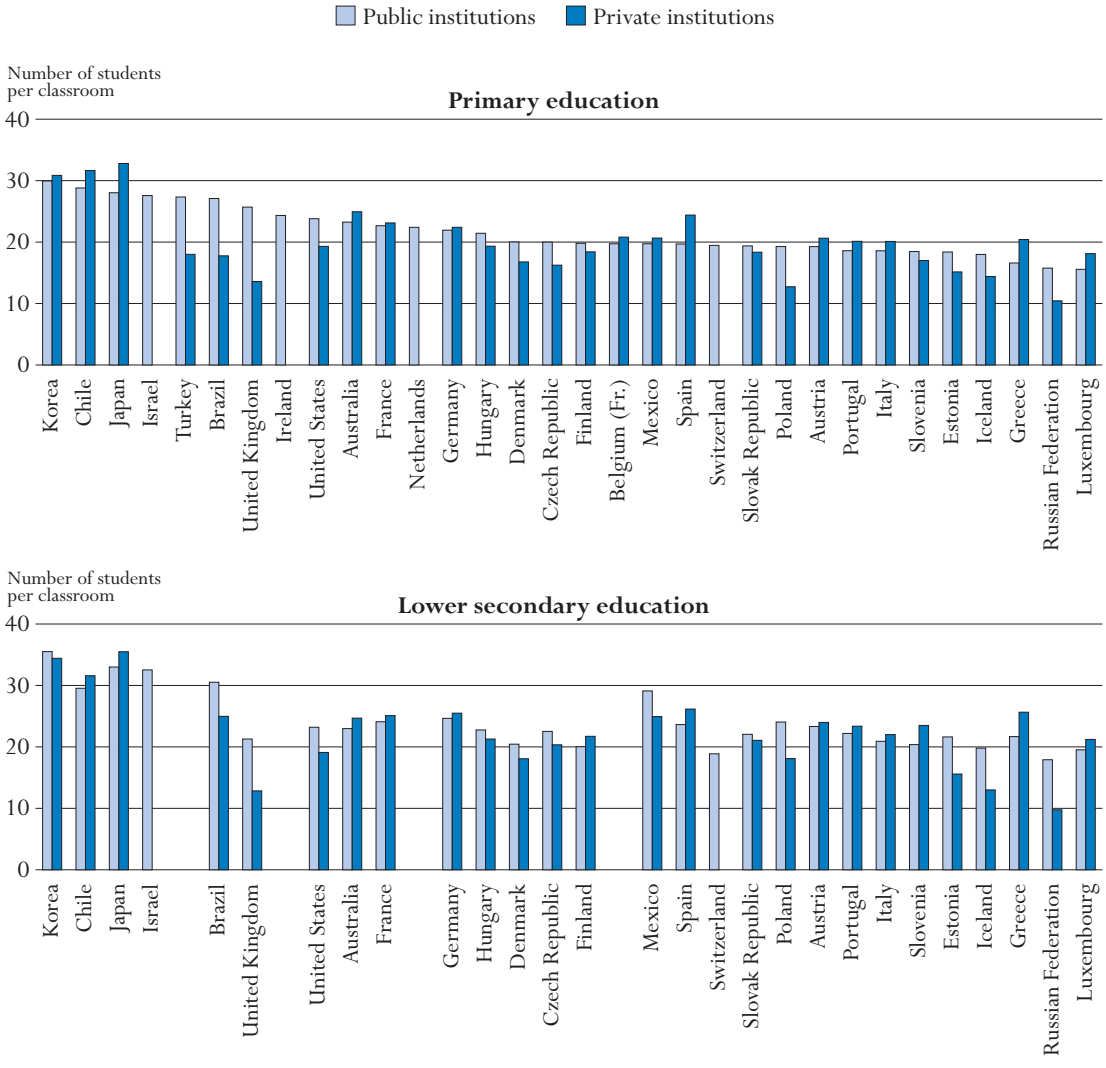
Table D2.3 focuses on the secondary level and presents teaching resources in public and private institutions by comparing the ratio of students to teaching staff for the two types of providers.

On average among OECD countries and partner countries for which data are available, ratios of students to teaching staff are slightly lower in private institutions at both lower secondary and upper secondary levels, with less than one more student per teacher in public institutions than in private institutions at the overall secondary level. The largest differences are in Mexico, the United Kingdom and the partner country Brazil where, at the lower secondary level, there are at least nine more students per teacher in public than in private institutions. The difference in Mexico at the upper secondary level is even larger.

Conversely, in some countries, ratios of students to teaching staff are lower in public institutions than in private institutions. This is most pronounced at the lower secondary level in Spain which has some 16 students per teacher in private institutions but only 9 in public institutions.

Among OECD countries for which data are available, average class sizes do not differ between public and private institutions by more than one student per class for both primary and lower secondary education (Chart D2.4 and Table D2.1). However, there are marked differences among countries. At the primary level, in Poland, Turkey, the United Kingdom, the United States and the partner countries Brazil and the Russian Federation, for example, average class sizes in public institutions are larger by four students or more per class.

Chart D2.4. Average class size in public and private institutions, by level of education (2008)



Countries are ranked in descending order of the average class size in public institutions in primary education.
Source: OECD. Table D2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310491

However, with the exception of the United States and the partner country Brazil, the private sector is relatively small in all of these countries (at most 5% of students at the primary level). In contrast, class sizes in private institutions exceed those in public institutions to at least four students in Japan and Spain.

The comparison of class sizes between public and private institutions shows a mixed picture at the lower secondary level, where private education is more prevalent. Lower secondary average class sizes are larger in private institutions than in public institutions in twelve OECD and one partner country, although differences tend to be smaller than in primary education.

Countries encourage and provide resources for public and private schools for various reasons. In many countries, one reason is to broaden the choices of schooling available to students and their families. Considering the importance of class size in discussions of schooling in many countries, differences in class sizes between public and private schools and institutions may be a driver of differences in enrolment. It is interesting that in countries with a substantial private sector in primary and lower secondary education – Australia, Belgium (French Community), Chile, France, Korea (lower secondary level only) and Luxembourg (see Table C1.5) – there are, on average, only marginal differences in class sizes between public and private institutions. Where large differences do exist, they tend to show that private institutions have more students per class than public ones. This indicates that in countries in which a substantial proportion of students and families choose private educational institutions, class size is not a determining factor in their decision.

Definitions and methodologies

Data refer to the academic year 2007-08 and are based on the UOE data collection on education statistics administered by the OECD in 2009 (for details see Annex 3 at *www.oecd.org/edu/eag2010*).

Class sizes are calculated by dividing the number of students enrolled by the number of classes. In order to ensure comparability among countries, special needs programmes are excluded. Data include only regular programmes at primary and lower secondary levels of education and exclude teaching in sub-groups outside the regular classroom setting.

The ratio of students to teaching staff is calculated by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in the specified type of institution.

The breakdown of the ratio of students to teaching staff by type of institution distinguishes between students and teachers in public institutions and in private institutions (government-dependent private institutions and independent private institutions). Some countries have a small proportion of students in private institutions (see Table C1.5).

Instructional personnel comprises:

- Teaching staff refers to professional personnel directly involved in teaching students. The classification includes classroom teachers, special education teachers and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular class. Teaching staff also includes department chairpersons whose duties include some teaching, but excludes non-professional personnel who support teachers in providing instruction to students, such as teachers' aides and other paraprofessional personnel.

- Teachers' aides and teaching/research assistants include non-professional personnel or students who support teachers in providing instruction to students.

Non-instructional personnel comprises four categories:

- Professional support for students includes professional staff who provide services to students that support their learning. In many cases, these staff originally qualified as teachers but then moved into other professional positions within the education system. This category also includes all personnel employed in education systems who provide health and social support services to students, such as guidance counsellors, librarians, doctors, dentists, nurses, psychiatrists and psychologists, and other staff with similar responsibilities.

- School and higher level management includes professional personnel who are responsible for school management and administration and personnel whose primary responsibility is the quality control and management of higher levels of the education system. This category covers principals, assistant principals, headmasters, assistant headmasters, superintendents of schools, associate and assistant superintendents, commissioners of education and other management staff with similar responsibilities.

- School and higher-level administrative personnel includes all personnel who support the administration and management of schools and of higher levels of the education system. The category includes: receptionists, secretaries, typists and word processing staff, book-keepers and clerks, analysts, computer programmers, network administrators, and others with similar functions and responsibilities.

- Maintenance and operations personnel include personnel who support the maintenance and operation of schools, the transportation of students to and from school, school security and catering. This category includes the following types of personnel: masons, carpenters, electricians, maintenance staff, repairers, painters and paperhangers, plasterers, plumbers and vehicle mechanics. It also includes bus drivers and other vehicle operators, construction workers, gardeners and grounds staff, bus monitors and crossing guards, cooks, custodians, food servers and others with similar functions.

Further references

Krueger, A.B. (2002), "Economic Considerations and Class Size", *National Bureau of Economic Research Working Paper:* 8875.

For more information on the gender breakdown of teachers and the age breakdown of teachers, see Indicator D7 available on line (StatLink http://dx.doi.org/10.1787/888932310586).

Specific notes on definitions and methodologies regarding this indicator for each country are given in Annex 3 at *www.oecd.org/edu/eag2010*.

The following additional material relevant to this indicator is available on line at:
StatLink http://dx.doi.org/10.1787/888932310491

- ***Table D2.4. Average class size, by type of institution and level of education (2000)***

D2

Table D2.1.

Average class size, by type of institution and level of education (2008)

Calculations based on number of students and number of classes

		Primary education					Lower secondary education (general programmes)				
			Private institutions					Private institutions			
		Public institutions	Total private institutions	Government-dependent private institutions	Independent private institutions	Total: Public and private institutions	Public institutions	Total private institutions	Government-dependent private institutions	Independent private institutions	Total: Public and private institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	23.2	24.9	24.9	a	**23.7**	23.0	24.7	24.7	a	**23.6**
	Austria	19.3	20.6	x(2)	x(2)	**19.3**	23.3	24.0	x(7)	x(7)	**23.4**
	Belgium	m	m	m	m	**m**	m	m	m	m	**m**
	Belgium (Fr.)	19.7	20.8	20.8	a	**20.2**	m	m	m	a	**m**
	Canada	m	m	m	m	**m**	m	m	m	m	**m**
	Chile	28.8	31.6	33.3	23.8	**30.3**	29.5	31.6	33.0	24.6	**30.5**
	Czech Republic	20.0	16.2	16.2	a	**19.9**	22.5	20.3	20.3	a	**22.5**
	Denmark	20.0	16.8	16.8	a	**19.6**	20.4	18.1	18.1	a	**20.0**
	Finland	19.8	18.4	18.4	a	**19.8**	20.0	21.7	21.7	a	**20.1**
	France	22.7	23.1	x(2)	x(2)	**22.7**	24.1	25.1	25.3	13.3	**24.3**
	Germany	21.9	22.4	22.4	x(3)	**21.9**	24.7	25.5	25.5	x(8)	**24.7**
	Greece	16.6	20.4	a	20.4	**16.8**	21.7	25.6	a	25.6	**21.9**
	Hungary	21.4	19.3	19.3	a	**21.2**	22.8	21.3	21.3	a	**22.6**
	Iceland	18.0	14.4	14.4	n	**17.9**	19.8	13.0	13.0	n	**19.7**
	Ireland	24.3	m	a	m	**m**	m	m	a	m	**m**
	Italy	18.6	20.1	a	20.1	**18.7**	20.9	22.0	a	22.0	**21.0**
	Japan	28.0	32.8	a	32.8	**28.1**	33.0	35.5	a	35.5	**33.2**
	Korea	29.9	30.9	a	30.9	**30.0**	35.5	34.4	34.4	a	**35.3**
	Luxembourg	15.6	18.1	20.1	18.0	**15.7**	19.5	21.2	20.9	21.6	**19.8**
	Mexico	19.7	20.7	a	20.7	**19.8**	29.1	24.9	a	24.9	**28.7**
	Netherlands[1]	22.4	m	a	m	**m**	m	m	a	m	**m**
	New Zealand	m	m	m	m	**m**	m	m	m	m	**m**
	Norway	a	a	a	a	**a**	a	a	a	a	**a**
	Poland	19.3	12.7	14.4	12.1	**19.0**	24.0	18.1	25.1	16.3	**23.2**
	Portugal	18.6	20.1	24.3	19.1	**18.8**	22.2	23.4	23.6	23.0	**22.3**
	Slovak Republic	19.4	18.3	18.3	n	**19.3**	22.0	21.1	21.1	n	**22.0**
	Spain	19.7	24.4	24.3	24.8	**21.0**	23.6	26.2	26.3	24.9	**24.4**
	Sweden	m	m	m	m	**m**	m	m	m	m	**m**
	Switzerland	19.5	m	m	m	**m**	18.9	m	m	m	**m**
	Turkey	27.3	18.0	a	18.0	**27.0**	a	a	a	a	**a**
	United Kingdom	25.7	13.6	25.7	13.5	**24.6**	21.3	12.8	21.3	11.2	**20.4**
	United States	23.8	19.3	a	19.3	**23.3**	23.2	19.1	a	19.1	**22.8**
	OECD average	***21.6***	***20.8***	***20.9***	***21.0***	***21.6***	***23.7***	***23.2***	***23.5***	***21.8***	***23.9***
	EU19 average	***20.3***	***19.1***	***20.1***	***18.3***	***19.9***	***22.2***	***21.8***	***22.5***	***19.7***	***22.2***
Partner countries	Brazil	27.1	17.8	a	17.8	**25.5**	30.5	25.0	a	25.0	**29.8**
	China	36.6	41.8	x(2)	x(2)	**36.8**	55.5	51.6	x(7)	x(7)	**55.2**
	Estonia	18.4	15.1	a	15.1	**18.3**	21.6	15.6	a	15.6	**21.4**
	India	m	m	m	m	**m**	m	m	m	m	**m**
	Indonesia	27.4	22.8	a	22.8	**26.6**	37.7	33.1	a	33.1	**35.9**
	Israel	27.6	a	a	a	**27.6**	32.5	a	a	a	**32.5**
	Russian Federation	15.8	10.4	a	10.4	**15.7**	17.9	9.8	a	9.8	**17.8**
	Slovenia	18.5	17.0	17.0	n	**18.5**	20.4	23.5	23.5	n	**20.4**

1. Year of reference 2006.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: Based on the *Educational Statistics Yearbook* in China 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310491

Table D2.2.

Ratio of students to teaching staff in educational institutions (2008)

By level of education, calculations based on full-time equivalents

		Pre-primary education			Secondary education				Tertiary education		
		Students to contact staff (teachers and teacher aides)	Students to teaching staff	Primary education	Lower secondary education	Upper secondary education	All secondary education	Post-secondary non-tertiary education	Tertiary-type B	Tertiary-type A and advanced research programmes	All tertiary education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia[1, 2]	m	m	15.8	x(6)	x(6)	12.0	m	m	15.2	m
	Austria	12.0	16.3	12.9	9.9	10.5	10.2	10.6	x(10)	x(10)	14.6
	Belgium[3]	15.9	15.9	12.6	8.1	10.8	9.9	x(5)	x(10)	x(10)	19.0
	Canada[2]	m	x(6)	x(6)	x(6)	x(6)	16.3	m	m	m	m
	Chile	11.9	13.7	24.1	24.1	25.2	24.8	a	74.2	21.6	30.0
	Czech Republic	13.5	13.7	18.1	11.8	12.2	12.0	18.2	16.2	19.4	19.1
	Denmark	m	6.2	x(4)	10.1	m	m	m	m	m	m
	Finland	m	11.4	14.4	10.6	15.9	13.6	x(5)	n	15.8	15.8
	France[3]	19.0	19.0	19.9	14.6	9.4	11.9	x(8)	16.7	16.1	16.2
	Germany	10.7	13.8	18.0	15.0	14.0	14.7	14.8	12.0	11.5	11.5
	Greece	m	m	m	m	m	m	m	m	m	m
	Hungary	m	10.9	10.6	10.9	12.3	11.6	13.1	19.5	17.0	17.1
	Iceland	7.2	7.2	x(4)	10.0	10.6	10.2	x(5, 10)	x(10)	x(10)	10.1
	Ireland[2]	4.7	10.3	17.8	x(6)	x(6)	12.8	x(6)	x(10)	x(10)	15.9
	Italy[2]	11.2	11.2	10.6	9.7	11.8	10.8	m	7.5	19.7	19.5
	Japan	15.8	16.5	18.8	14.7	12.3	13.4	x(5, 10)	7.5	11.8	10.4
	Korea	17.9	17.9	24.1	20.2	16.5	18.2	a	m	m	m
	Luxembourg[2]	m	12.2	12.1	x(6)	x(6)	9.1	m	m	m	m
	Mexico	27.1	27.1	28.0	33.9	25.8	30.7	a	13.3	14.5	14.4
	Netherlands[2]	m	x(3)	15.8	x(6)	x(6)	15.8	x(6)	n	14.9	14.9
	New Zealand	9.6	9.6	17.1	16.2	12.8	14.5	17.1	17.3	17.9	17.8
	Norway[2]	m	m	10.8	10.1	9.9	10.0	x(5)	x(10)	x(10)	9.3
	Poland	m	18.8	10.5	12.9	12.2	12.5	14.1	11.5	16.8	16.7
	Portugal	m	14.7	11.3	8.1	7.3	7.7	x(5, 10)	x(10)	x(10)	13.8
	Slovak Republic	13.2	13.3	18.6	14.5	15.1	14.8	9.3	10.5	15.5	15.4
	Spain	m	13.1	13.1	10.3	8.7	9.8	a	8.8	11.6	11.1
	Sweden	6.1	6.1	12.2	11.4	14.7	13.1	12.5	x(10)	x(10)	8.5
	Switzerland[1, 2]	m	16.6	15.4	12.1	10.4	11.7	m	m	m	m
	Turkey	m	27.1	24.4	a	17.0	17.0	a	80.8	20.0	25.7
	United Kingdom	16.8	17.9	20.2	15.0	12.4	13.4	x(5)	x(10)	x(10)	16.9
	United States	11.0	13.4	14.3	14.8	15.6	15.1	14.7	x(10)	x(10)	15.0
	OECD average	*13.1*	*14.4*	*16.4*	*13.7*	*13.5*	*13.7*	*13.8*	*19.7*	*16.2*	*15.8*
	EU19 average	*12.3*	*13.2*	*14.6*	*11.5*	*12.0*	*12.0*	*13.2*	*12.8*	*15.8*	*15.4*
Partner countries	Brazil	14.0	18.8	24.5	21.2	18.4	20.0	a	x(10)	x(10)	15.9
	China	m	22.4	17.9	16.0	17.5	16.7	m	10.1	m	m
	Estonia	m	m	16.4	16.0	12.4	13.8	x(5)	m	m	m
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	14.9	21.4	15.4	18.1	16.4	a	x(10)	x(10)	17.6
	Israel[2]	11.1	21.9	16.3	12.2	10.9	11.4	m	m	m	m
	Russian Federation[2, 4]	m	m	17.3	x(6)	x(6)	8.7	x(6)	10.2	13.5	12.6
	Slovenia	9.4	9.4	15.8	8.9	13.7	11.3	x(5)	x(10)	x(10)	20.8

1. Includes only general programmes in upper secondary education.
2. Public institutions only (for Australia, for tertiary-type A and advanced research programmes only; for Ireland, at pre-primary and secondary levels only; for Italy, from pre-primary to secondary level; for Israel, at pre-primary level only; for the Russian Federation, at primary level only).
3. Excludes independent private institutions.
4. Excludes part-time personnel in public institutions at lower secondary and general upper secondary levels.

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: Based on the *Educational Statistics Yearbook* in China 2008. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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D2

Table D2.3.

Ratio of students to teaching staff, by type of institution (2008)

By level of education, calculations based on full-time equivalents

		Lower secondary education				Upper secondary education				All secondary education			
			Private				Private				Private		
		Public	Total private institutions	Government-dependent private institutions	Independent private institutions	Public	Total private institutions	Government-dependent private institutions	Independent private institutions	Public	Total private institutions	Government-dependent private institutions	Independent private institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia[1]	x(9)	x(10)	x(11)	a	x(9)	x(10)	x(11)	a	12.3	11.6	11.6	a
	Austria	9.8	11.4	x(2)	x(2)	10.6	10.1	x(6)	x(6)	10.1	10.7	x(10)	x(10)
	Belgium[2]	7.5	m	8.6	m	11.1	m	10.6	m	9.8	m	9.9	m
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	24.8	23.5	24.9	17.1	25.3	25.1	28.1	14.4	25.1	24.6	27.0	15.1
	Czech Republic	11.9	10.4	10.4	a	11.9	13.9	13.9	a	11.9	13.4	13.4	a
	Denmark[3]	10.1	10.1	10.1	a	m	m	m	a	m	m	m	a
	Finland[4]	10.6	12.9	12.9	a	15.6	18.5	18.5	a	13.2	17.4	17.4	a
	France	14.3	m	15.7	m	9.2	m	10.3	m	11.7	m	12.9	m
	Germany	15.1	14.2	14.2	x(3)	14.2	12.5	12.5	x(7)	14.8	13.5	13.5	x(11)
	Greece	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	10.9	10.6	10.6	a	12.4	11.8	11.8	a	11.6	11.4	11.4	a
	Iceland[3, 4]	10.0	9.4	9.4	n	10.3	13.3	13.3	n	10.1	11.9	11.9	n
	Ireland[2]	x(9)	x(10)	a	x(12)	x(9)	x(10)	a	x(12)	12.8	m	a	m
	Italy	9.7	m	a	m	11.8	m	a	m	10.8	m	a	m
	Japan[4]	14.8	13.1	a	13.1	11.7	14.0	a	14.0	13.3	13.8	a	13.8
	Korea	20.2	20.4	20.4	a	16.0	17.1	17.1	a	18.4	18.0	18.0	a
	Luxembourg	x(9)	m	m	m	x(9)	m	m	m	9.1	m	m	m
	Mexico	36.0	24.7	a	24.7	30.8	15.4	a	15.4	34.1	19.7	a	19.7
	Netherlands[2]	x(9)	m	a	m	x(9)	m	a	m	15.8	m	a	m
	New Zealand	16.4	15.2	16.1	13.3	13.2	11.8	12.6	10.5	14.8	13.2	14.0	11.6
	Norway	10.1	m	m	m	9.9	m	m	m	10.0	m	m	m
	Poland	13.1	10.0	12.0	9.4	12.3	11.4	15.8	10.7	12.6	10.9	14.0	10.3
	Portugal	7.9	9.8	9.5	10.1	7.6	6.1	9.2	5.4	7.8	7.2	9.4	6.4
	Slovak Republic	14.5	14.0	14.0	n	15.3	13.5	13.5	n	14.9	13.7	13.7	n
	Spain	8.7	15.8	15.7	16.6	7.8	13.1	13.3	12.8	8.4	15.0	15.3	14.1
	Sweden	11.4	12.0	12.0	n	14.6	15.2	15.2	n	13.0	13.9	13.9	n
	Switzerland[5]	12.1	m	m	m	10.4	m	m	m	11.7	m	m	m
	Turkey	a	a	a	a	17.7	7.0	a	7.0	17.7	7.0	a	7.0
	United Kingdom[2]	17.3	8.3	11.1	5.2	12.7	12.0	13.3	7.4	14.8	11.1	12.9	6.4
	United States	15.1	11.8	a	11.8	16.3	10.7	a	10.7	15.7	11.3	a	11.3
	OECD average	***13.8***	***13.6***	***13.4***	***10.1***	***13.7***	***13.3***	***14.3***	***8.3***	***13.8***	***13.5***	***14.1***	***8.9***
	EU19 average	***11.5***	***11.6***	***12.1***	***10.3***	***11.9***	***12.6***	***13.2***	***9.1***	***12.0***	***12.6***	***13.1***	***9.3***
Partner countries	Brazil	22.9	12.3	a	12.3	20.3	11.7	a	11.7	21.8	12.0	a	12.0
	China	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	16.1	14.5	a	14.5	12.7	6.6	a	6.6	14.1	8.4	a	8.4
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	18.4	12.2	a	12.2	20.3	16.4	a	16.4	19.0	13.9	a	13.9
	Israel	12.2	a	a	a	10.9	a	a	a	11.4	a	a	a
	Russian Federation	m	m	a	m	m	m	a	m	m	m	a	m
	Slovenia[2]	8.9	4.5	4.5	n	13.7	14.8	x(6)	x(6)	11.2	13.8	x(10)	x(10)

1. Includes only general programmes in lower and upper secondary education.
2. Upper secondary includes post-secondary non-tertiary education.
3. Lower secondary includes primary education.
4. Upper secondary education includes programmes from post-secondary education.
5. Includes only general programmes in upper secondary education.

Source: OECD. China, India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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INDICATOR D3

HOW MUCH ARE TEACHERS PAID?

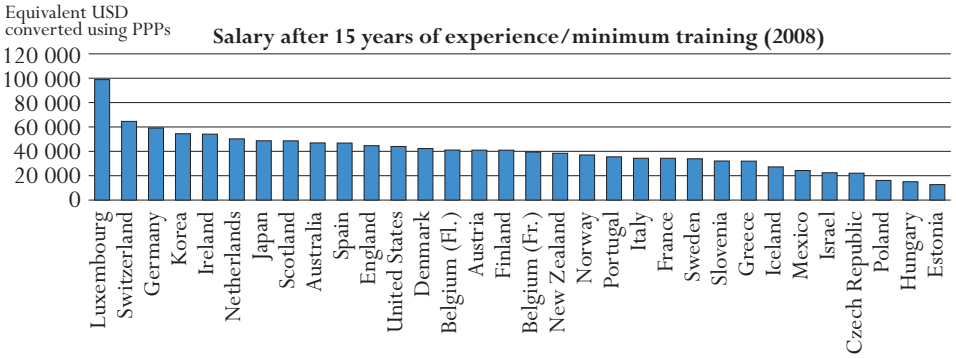
This indicator shows the starting, mid-career and maximum statutory salaries of teachers in public primary and secondary education, various additional payments and incentive schemes used to reward teachers, and relative teachers' salaries. Together with teachers' working and teaching time (see Indicator D4), this indicator presents some key measures of teachers' working lives. Differences in teachers' salaries, along with other factors such as student-to-staff ratios (see Indicator D2), provide some explanation of the differences in expenditure per student (see Indicators B1 and B7).

Key results

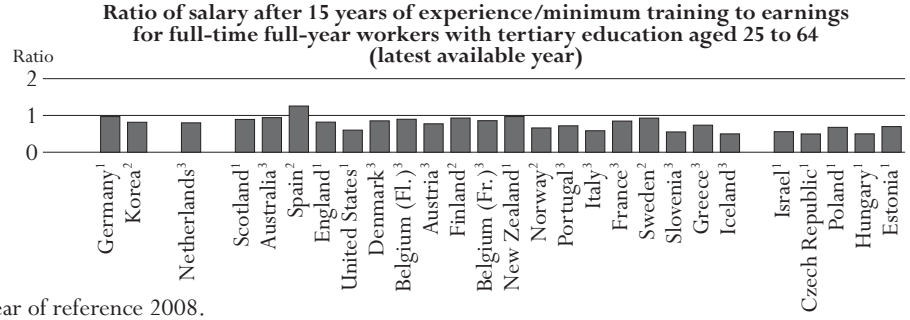
Chart D3.1. Teachers' salaries in lower secondary education (2008 or latest available year)

Annual statutory teachers' salaries in public institutions in lower secondary education, in equivalent USD converted using PPPs, and the ratio of salary after 15 years of experience to earnings for full-time full-year workers with tertiary education aged 25 to 64

Salaries of teachers with at least 15 years of experience at the lower secondary level range from less than USD 16 000 in Hungary and in the partner country Estonia to USD 54 000 or more in Germany, Ireland, Korea and Switzerland, and exceed USD 98 000 in Luxembourg.



Salaries for teachers with 15 years of experience in lower secondary education are higher than earnings for workers with tertiary education in Spain, whereas in the Czech Republic, Hungary, Iceland, Italy and the partner countries Israel and Slovenia, salaries are below 60% of earnings for workers with tertiary education.



1. Year of reference 2008.
2. Year of reference 2007.
3. Year of reference 2006.

Countries are ranked in descending order of teachers' salaries in lower secondary education after 15 years of experience and minimum training.

Source: OECD. Table D3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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Other highlights of this indicator

- Teachers' salaries increased in real terms between 1996 and 2008 in virtually all countries, with the largest increases in Finland, Hungary, Mexico (and in starting salaries in Australia and New Zealand) and in the partner country Estonia. Salaries at the primary and upper secondary levels in Spain fell in real terms over this period, although they remained above the OECD average.

- On average in OECD countries, upper secondary teachers' salaries per teaching hour exceed those of primary teachers by 39%; the difference is 5% or less in New Zealand and Scotland, and is greater than twice as much in Denmark. In contrast, primary teachers' salaries per teaching hour exceed those of upper secondary teachers by 9% in England.

- Salaries at the top of the scale are on average around 70% higher than starting salaries for both primary and secondary education, and the difference tends to be greatest when it takes many years to progress through the scale. Top-of-the-scale salaries in Korea and Portugal are more than 2.5 times the starting salaries, but it takes 37 and 31 years, respectively, to reach the top of the scale. However, not all teachers in every country reach the top of the salary scale. For example, while there are three different salary levels in secondary education in the Netherlands, only 18% of teachers were at the maximum salary level in 2008.

D3

Policy context

Teachers' salaries represent the largest single cost in school education. In addition, salaries and working conditions are important for attracting, developing and retaining skilled and high-quality teachers. Compensation is therefore a critical consideration for policy makers seeking to maintain both the quality of teaching and a balanced education budget (see Indicator B6). The size of education budgets naturally reflects trade-offs among many related factors: teachers' salaries, ratio of students to teaching staff, instruction time planned for students and designated number of teaching hours.

Ensuring a sufficient number of skilled teachers is a key issue in all OECD countries. In a competitive labour market, the equilibrium rate of salaries paid to different types of teachers in different regions of the country would reflect the supply of and demand for those teachers. This is often not the case in OECD countries, as salaries and other working conditions are often set centrally for all teachers. Teachers' salaries and conditions are therefore policy-malleable factors that can affect both the demand for and supply of teachers.

Comparing salary levels at different career points allows for some analysis of the structure of careers and the salary associated with advancement in the teaching profession. Theoretically, the salary structure can provide salary incentives and rewards so as to attract high-quality teachers and increase their job satisfaction and performance. Other important aspects of the career structure are probationary periods at the beginning of teachers' careers and the issue of tenure (see Indicator D3 in *Education at a Glance 2007*). Salary increases can be concentrated at different points in the salary structure, for example, early in the career or for more experienced employees, or can have a more linear structure with gradual salary increases throughout a career.

Evidence and explanations

Comparing teachers' salaries

This indicator compares the starting, mid-career and maximum statutory salaries of teachers with the minimum level of qualifications required for certification in public primary and secondary education. First, teachers' salaries are examined in absolute terms at three career points: starting, mid-career and top-of-the-scale. Next, levels of salaries are compared in relative terms. Finally, changes in these salaries between 1996 and 2008 are presented.

International comparisons of salaries provide simplified illustrations of the compensation received by teachers for their work. They provide a snapshot of the systems of compensation and the welfare inferences that can be made. Large differences in taxation and social benefit systems in OECD countries as well as the use of financial incentives (including regional allowances for teaching in remote regions, family allowances, reduced rates on public transport, tax allowances on purchases of cultural goods, and other quasi-pecuniary entitlements that contribute to a teacher's basic income) make it important to exercise caution in interpreting comparisons of teachers' salaries.

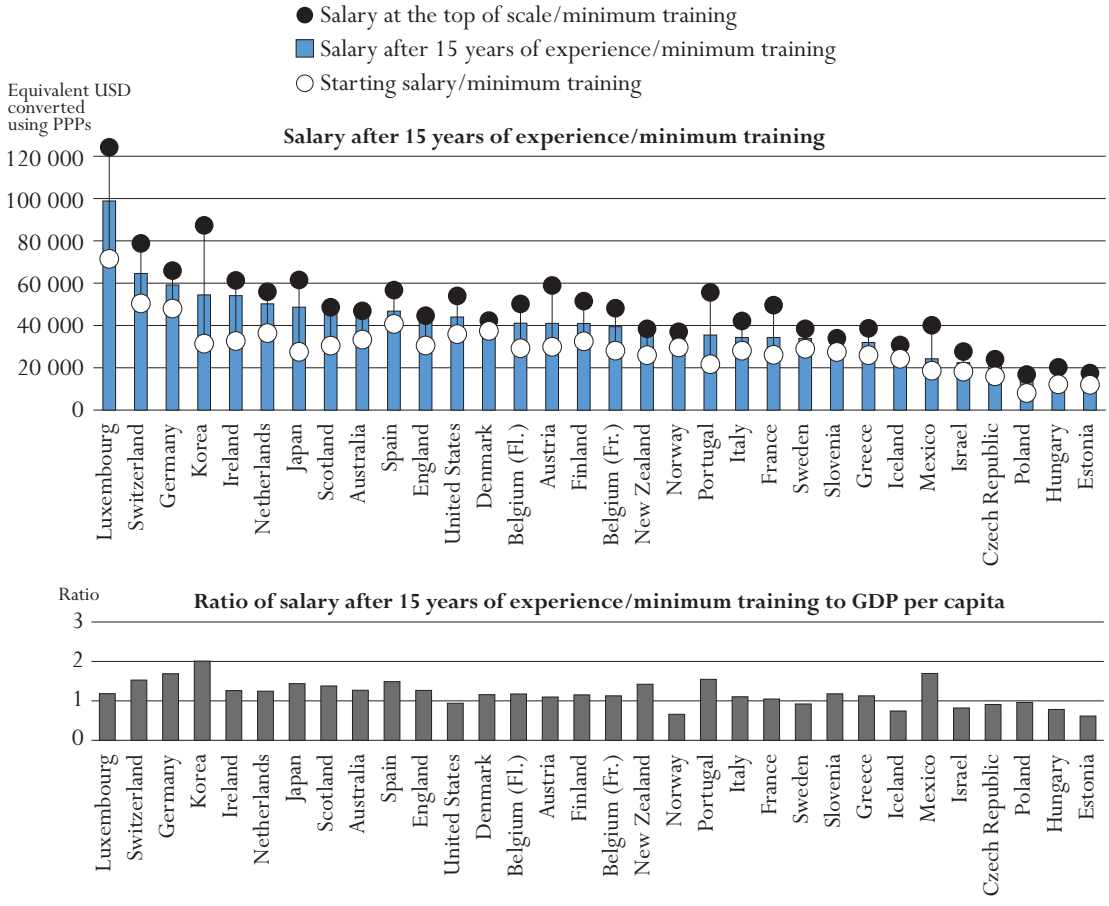
Statutory salaries as reported here must be distinguished from actual expenditures on wages by governments and from teachers' average salaries, which are also influenced by factors such as the age structure of the teaching force and the prevalence of part-time work. Indicator B6 shows the

total amounts paid in compensation to teachers. Furthermore, since teaching time and teachers' workloads vary considerably among countries, these factors should be taken into account when using comparisons of statutory salaries to judge teachers' overall benefits in different countries (see Indicator D4). When considering the salary structure of teachers it is also important to recall that not all teachers reach the top of the salary scale. For example, in the Netherlands there are three different salary levels for teachers in secondary education. In 2008 only 18% of the teachers in secondary education were at the maximum salary level.

The annual statutory salaries of lower secondary teachers with 15 years of experience range from less than USD 16 000 in Hungary and in the partner country Estonia to over USD 54 000 or more in Germany, Ireland, Korea and Switzerland, and more than USD 98 000 in Luxembourg (Table D3.1).

Chart D3.2. Teachers' salaries (minimum, after 15 years experience, and maximum) in lower secondary education (2008)

Annual statutory teachers' salaries in public institutions in lower secondary education, in equivalent USD converted using PPPs, and the ratio of salary after 15 years of experience to GDP per capita



Countries are ranked in descending order of teachers' salaries in lower secondary education after 15 years of experience and minimum training.

Source: OECD. Table D3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

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In most OECD countries, teachers' salaries increase with the level of education at which they teach. For example, in Belgium, Luxembourg, the Netherlands, Poland and Switzerland, the salary of an upper secondary teacher with at least 15 years of experience is at least 25% higher than that of a primary school teacher with the same experience. In contrast, in Australia, England, Greece, Ireland, Japan, Korea, New Zealand, Portugal, Scotland and the partner countries Estonia and Slovenia, upper secondary and primary teachers' salaries are more comparable (a difference of less than 5%, Table D3.1).

Comparatively large differences in teachers' salaries at different levels may influence how schools and school systems attract and retain teachers to these levels of education. They may also influence the extent to which teachers move among different educational levels and with that, the degree of segmentation in the labour market for teachers.

Relative teacher salary

The amount countries invest in teachers relative to their available resources, provides an indication of the importance countries place on education. Comparisons of statutory salaries with GDP per capita offer a way of contextualising teacher salary levels in terms of countries' wealth and provide some basis for standardised comparisons.

Another question is how to ensure an adequate supply of well educated teachers. In order to examine this question, the use of a different benchmark against which teacher salaries are compared is required. GDP per capita is related to several factors in addition to earnings, such as capital income and labour force participation. The supply of teachers is to a large extent a function of enrolments in teacher education programmes. Some of the many factors that influence enrolment in teacher education programmes are the competitiveness and attractiveness of teacher salaries relative to salaries in other professions. Since the natural alternative to teacher education is another tertiary education programme, a more refined benchmark would compare the salaries of teachers to those of other comparable non-teaching professionals. A new benchmark on statutory salaries relative to earnings for full-time full-year workers with tertiary education aged 25 to 64 has been developed to serve as a reflection of comparative labour market conditions.

Statutory salaries relative to GDP per capita

Statutory salaries for teachers with 15 years of experience (in primary and lower secondary education) relative to GDP per capita are relatively low in Hungary (0.78), Iceland (0.74), Norway (0.66) and the partner countries Estonia (0.61) and Israel (0.73 in primary, 0.82 in lower secondary). They are highest in Korea (2.01). In upper secondary general education, the lowest ratios are found in Hungary (0.94), Iceland (0.87), Norway (0.69) and the partner countries Estonia (0.61) and Israel (0.82). Relative to GDP per capita, mid-career salaries are highest in Germany (1.82), Korea (2.01) and Switzerland (1.80) (Table D3.1).

The level of teachers' salaries is related to the size of GDP per capita. At lower secondary level of education, countries such as the Czech Republic, France, Greece, Hungary, Italy, Mexico, New Zealand, Poland, Portugal as well as the partner countries Estonia, Israel and Slovenia have both relatively low GDP per capita and low teachers' salaries compared to OECD averages, while countries such as Australia, Denmark, England, Germany, Ireland, Japan, Luxembourg,

the Netherlands, Scotland, Switzerland and the United States have both higher GDP per capita and higher teachers' salaries than the OECD averages. Exceptions to this include Korea and Spain, which have a GDP per capita that is lower than the average, but teachers' salaries that are comparable to those of countries with much higher GDP per capita (Chart D3.2 and Table D3.1).

Statutory salaries relative to earnings for full-time full-year workers with tertiary education aged 25 to 64

This indicator compares statutory teachers' salaries with average earnings for full-time full-year workers with tertiary education (ISCED 5A/5B/6) aged 25 to 64 (for additional information, see Indicators A10). It is important to note that this indicator uses teachers' salaries with minimum qualifications after 15 years of experience and that teachers may be of any age. Average earnings for teachers are likely to be higher than this specific statutory salary.

Statutory salaries for teachers with 15 years of experience relative to earnings for full-time full-year workers with tertiary education aged 25 to 64 are 60% or less in both primary and lower secondary education in the Czech Republic, Hungary, Iceland, Italy, the United States and the partner countries Israel and Slovenia. In upper secondary general education, the lowest ratios are found in the Czech Republic (0.53) and the partner countries Israel (0.56) and Slovenia (0.55). Relative teachers' salaries in primary and lower secondary education are highest in Australia (0.93 in primary, 0.94 in lower secondary), Belgium (Flemish Community) (0.90), Germany (0.89 in primary, 0.97 in lower secondary), New Zealand (0.97), Scotland (0.89), Spain (1.12 in primary, 1.26 in lower secondary) and Sweden (0.90 in primary, 0.93 in lower secondary). In upper secondary education the ratios are highest in Belgium (Flemish Community) (1.14), Belgium (French Community) (1.10), Denmark (1.06), Finland (1.02), Germany (1.04), the Netherlands (1.07) and Spain (1.28) (Table D3.1).

Since earnings for full-time full-year workers with tertiary education aged 25 to 64 are higher than GDP per capita, the values of the indicator using earnings are lower than those of the indicator using GDP per capita. For lower secondary education, average salary to GDP per capita across the OECD countries is 1.22, while the average salary to earnings for workers with tertiary education is 0.79. In addition, there is less variation in the latter indicator; this can be related to the fact that GDP per capita includes factors in addition to average earnings. Several of the same countries have the highest and lowest teachers' salaries relative to GDP per capita and to average earnings. However, there are also some noticeable differences. For Korea, the indicator related to GDP per capita is high while the indicator using earnings is more in line with other countries. The opposite is true for Spain. Norway, where income from oil production gives high GDP per capita, perform better on the indicator using average earnings for full-time full year workers with tertiary education.

Statutory salaries per hour of net teaching time

An alternative measure of salaries that better illustrates the overall cost of classroom teaching time is the statutory salary for a full-time classroom teacher relative to the number of hours per year that a teacher is required to spend teaching students (see Indicator D4). Although this measure does not adjust salaries for the amount of time that teachers spend in various other teaching-related activities, it nonetheless provides an approximate estimate of the cost of the actual time teachers spend in the classroom.

The average statutory salary per teaching hour after 15 years of experience is USD 50 in primary, USD 60 in lower secondary, and USD 71 in upper secondary general education. In primary education, the Czech Republic, Hungary, Mexico, Poland and the partner countries Estonia and Israel have the lowest salaries per teaching hour (USD 30 or less). By contrast, salaries are relatively high in Denmark, England, Germany, Japan, Korea and Luxembourg (USD 60 or more). There is even more variation in salaries per teaching hour in general upper secondary education, ranging from about USD 30 or less in Hungary and the partner country Estonia, to USD 80 or more in Belgium, Denmark, Finland, Germany, Japan, Korea, Luxembourg and the Netherlands (Table D3.1).

As secondary teachers are required to teach fewer hours than primary teachers, their salaries per teaching hour are usually higher than those of teachers at lower levels, even in countries where statutory salaries are similar (see Indicator D4). On average among OECD countries, upper secondary teachers' salaries per teaching hour exceed those of primary teachers by around 39%. In New Zealand and Scotland this difference is 5% or less, but it is 60% or more in Belgium (Flemish Community), Luxembourg, the Netherlands and more than twice as much in Denmark (Table D3.1). In contrast, primary teachers' salaries per teaching hour exceed those of upper secondary teachers by 9% in England.

However, the large difference between primary and upper secondary teachers' salaries per teaching hour does not necessarily exist when comparing salaries per hour of working time. In Portugal, for example, where there is a 14% difference in salaries per teaching hour between primary and upper secondary teachers, teaching time at the primary level is 12% higher than teaching time at upper secondary level, even though statutory salaries and working time at school are the same at these levels (see Table D4.1).

Teaching experience and qualifications influence teachers' salary scales

Salary structures illustrate the salary incentives available to teachers at different points in their careers. There is some evidence that a sizeable proportion of teachers and school administrators do not want to move to higher positions in the hierarchy in schools (*e.g.* to school principal) (OECD, 2005). Presumably, this is because the negative aspects of a promotion outweigh positive aspects such as increased salaries, prestige and other rewards. If this is the case, then the promotion can be made more attractive either by changing the duties and requirements of the position or by changing the salary and other rewards.

As Table D3.1 shows, OECD data on teachers' salaries are limited to information on statutory salaries at three points of the salary scale: starting salaries, salaries after 15 years of service and salaries at the top of the scale. These salaries are those of teachers with the minimum required training. They must be interpreted with caution as further qualifications can lead to wage increases in some OECD countries. Some inferences can be drawn from the data on the degree to which salary structures for teachers provide salary increases with different levels of promotion and tenure.

Deferred compensation is a key incentive for workers in many industries. Deferred compensation rewards employees for staying in organisations or professions and for meeting established performance criteria.

Deferred compensation exists in teachers' salary structure. In OECD countries, statutory salaries for primary, lower and upper secondary general teachers with 15 years of experience are, on average, 38%, 39% and 43% higher, respectively, than starting salaries. Furthermore, the increases from starting salary to the top of the salary scale are, on average, 71%, 70% and 74%. For lower secondary teachers, the average starting salary is USD 30 750. With minimum training, it rises to USD 41 927 after 15 years and to USD 50 649 at the top of the salary scale, which is reached, on average, after 24 years of experience. A similar increase is therefore evident between first, the starting salary and the salary at 15 years of experience, and, second, the salary at 15 years of experience and the salary at the top of the salary scale (reached, on average, after 24 years of experience) (Table D3.1).

Salary structures differ widely. A number of countries have relatively flat structures with small increases. For example, teachers at the top of the salary scale in Denmark (except at the upper secondary level), Norway and the partner country Slovenia only earn up to 25% more than teachers at the bottom of the salary scale.

Salary increases between the points on a salary structure should be seen in terms of the number of years it takes for a teacher to advance through the salary scale, a factor which varies substantially across countries. In lower secondary education, teachers in Australia, Denmark, New Zealand, Scotland and the partner country Estonia, reach the highest step on the salary scale within six to nine years. Monetary incentives therefore disappear relatively quickly compared to other countries. If job satisfaction and performance are determined, at least in part, by prospects of salary increases, difficulties may arise as teachers approach the peak in their age-earnings profiles.

In Austria, the Czech Republic, France, Greece, Hungary, Italy, Japan, Korea, Luxembourg, Portugal, Spain and the partner country Israel, teachers in lower secondary education reach the top of the salary scale after 30 or more years of service (Table D3.1). It is difficult to categorise countries simply by steep or flat salary structures. A number of countries have both steep and flat portions that vary across teachers' tenure. For example, teachers in Germany and Luxembourg have opportunity for similar salary increases in the first 15 years, but then face very different growth rates; in Luxembourg salaries rise faster, while in Germany increases are relatively small. Policy makers in these countries face different issues for these more experienced teachers.

While the salary opportunities available to teachers are emphasised here, there may also be benefits to compression in pay scales. It is often argued that organisations, in which employees have smaller salary differences, have greater levels of trust and information flows and a higher degree of collegiality. These benefits need to be weighed against the benefits of salary incentives.

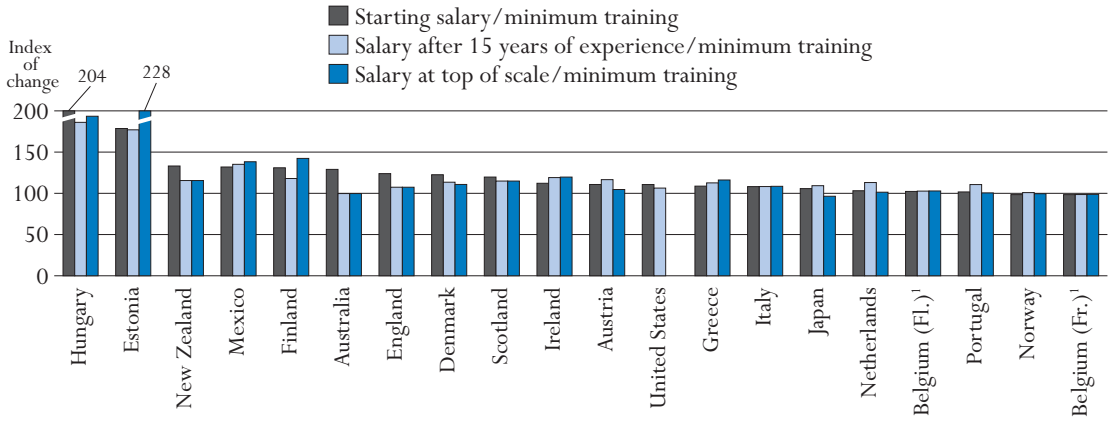
Teachers' salaries between 1996 and 2008

In comparing the index of change between 1996 and 2008 in teachers' salaries, it is evident that salaries have risen in real terms at both primary and secondary levels in virtually all countries. The biggest increases at all levels have taken place in Hungary and the partner country Estonia, but both still have low real and relative salaries. The change has tended to be largest in countries which still had low teachers' salaries in 2008. For teachers in secondary education in Belgium (French Community) and primary and upper secondary education in Spain, salaries fell in real terms between 1996 and 2008. Nevertheless, teachers' salaries were relatively high in 2008 compared to earnings for workers with tertiary education.

Salary trends have also varied at different points on the salary scale. For instance, top-of-the-scale salaries have risen faster than starting and mid-career salaries in Finland, Greece and Mexico (at lower secondary level) and in the partner country Estonia (Table D3.2 and Chart D3.3). By contrast, salaries of teachers with 15 years of experience have risen relatively more quickly than both starting and top-of-the-scale salaries in Japan, the Netherlands and Portugal. In Australia, Denmark, England, New Zealand and Scotland, starting salaries have risen faster than mid-career or top-of-the-scale salaries for all education levels. All have a flatter salary scale than the average OECD country in 2008. If teachers are attracted by higher salaries in the early stages of their careers, they may expect salary increases to continue throughout their careers. Using resources to attract more early-career teachers to the profession needs to be weighed against potential implications in terms of retention and reduced satisfaction and motivation. However, comparing changes in salaries at three points of the salary structure may not account for changes in other aspects of the structure of teachers' salaries.

Chart D3.3. Changes in teachers' salaries in lower secondary education, by point in the salary scale (1996, 2008)

Index of change between 1996 and 2008 (1996 = 100, 2008 price levels using GDP deflators)



1. The data for Belgium in 1996 are based on Belgium as a whole.

Countries are ranked in descending order of the index of change between 1996 and 2008 in teachers' starting salaries.

Source: OECD. Table D3.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310510

Additional payments: incentives and allowances

In addition to basic pay scales, many school systems have schemes that offer additional payments or other rewards for teachers; these may take the form of financial remuneration and/or reduction in the number of teaching hours. Greece and Iceland, for example, use a reduction in required teaching hours to reward experience or long service. In Portugal, teachers may receive a salary increase and a reduction in teaching time during the time they carry out special tasks or activities (*e.g.* training student teachers, guidance counselling, etc.). Together with the starting salary, such payments may affect a person's decision to enter or stay in the teaching profession. Early career additional payments may include family allowances and bonuses for working in certain locations, and higher initial salaries for higher-than-minimum teaching certification or qualifications, such as qualifications in multiple subjects or certification to teach students with special educational needs.

Adjustments to the base salary may be awarded to teachers yearly or on an incidental basis either by the head teacher or school principal, or by the local, regional or national government. A distinction is made between an addition to teachers' base salary, a yearly payment and an incidental or "one-off" payment.

Types of additional payments

Data on additional payments fall into three broad areas:

- Those based on responsibilities assumed by teachers and on particular conditions (*e.g.* additional management responsibilities or teaching in high-need regions, disadvantaged schools).
- Those based on the demographic characteristics of teachers (*e.g.* age and/or family status).
- Those based on teachers' qualifications, training and performance (*e.g.* higher than the minimum qualifications and/or completing professional development activities).

Data have not been collected on payment amounts but on whether the additional payments are available and on the level at which the decision to award such payments is taken (Table D3.3a and Tables D3.3b, D3.3c and D3.3d available on line, as well as Annex 3 at *www.oecd.org/edu/eag2010*).

Additional payments are most often awarded for particular responsibilities or working conditions, such as teaching in more disadvantaged schools, particularly those located in very poor neighbourhoods or with a large proportion of students whose language is not the language of instruction. Such teachers face demands that teachers elsewhere may not encounter. These schools often have difficulty attracting teachers and are often more likely to have less experienced teachers (OECD, 2005). These additional payments are provided yearly in about two-thirds of OECD and partner countries. Ten countries also offer additional payments for teachers who teach in certain fields in which there are shortages of teachers. The payments are made yearly in almost all of these countries.

Less than half of OECD countries offer additional payments based on teachers' demographic characteristics and in most cases these are yearly payments. Additional payments based on teachers' qualifications, training and performance are also very common in OECD countries and partner countries. The most common types of payments based on teachers' initial education and qualifications are for an initial education qualification higher than the minimum requirement and/or a level of teacher certification and training higher than the minimum requirements. These are available in around 70% of OECD countries and partner countries, with half of countries offering both types; they are used in nearly all countries as a criterion for base salary. Eighteen OECD countries and partner countries offer additional payments for the successful completion of professional development activities. In 13 of these countries, these are used as a criterion for the base salary, but in Korea they are only offered on an incidental basis.

Thirteen OECD countries and two partner countries offer an additional payment for outstanding performance in teaching. This is the only additional payment that may be classified as a performance incentive. In two-third of these countries they are incidental payments, and in ten, they are mostly yearly additions to teachers' salaries. In 13 of the 15 countries that offer this incentive (Austria, the Czech Republic, Denmark, England, Finland, Hungary, Mexico, the Netherlands, New Zealand, Poland, Sweden and the partner countries Estonia and Slovenia), the decision to award the additional payments can be made at the school level.

The method for identifying outstanding performance and the form of incentives varies. In Mexico, outstanding performance is calculated on the basis of students' achievements and criteria relating to teachers' experience, performance and qualification. In Poland, it is based on the assessment of the head teacher. As may be expected, additional payments made for years of experience are, in virtually all OECD countries, made through changes to teachers' base salary. Additional payments made for specific teaching conditions or responsibilities are more commonly made through yearly or incidental payments. The key exception is when a teacher assumes management responsibilities, with additional payments offered more frequently through changes to base salaries or yearly and incidental payments.

Mixes of all three types of additional payment are offered in relation to teachers' qualifications, training and performance. Given that an initial qualification higher than the minimum requirement is often identified at the beginning of a teacher's career, it is not surprising that the additional payment is more often provided through changes to teachers' base salaries. Additional payments due to teacher demographics are mainly made through additional yearly payments in 11 of the 16 countries offering a form of additional payment in this category.

Definitions and methodologies

Data on statutory teachers' salaries and bonuses are derived from the 2009 OECD-INES Survey on Teachers and the Curriculum. Data refer to the school year 2007-08, and are reported in accordance with formal policies for public institutions.

Statutory salaries (Table D3.1) refer to scheduled salaries according to official pay scales. The salaries reported are gross (total sum paid by the employer) less the employer's contribution to social security and pension (according to existing salary scales). Salaries are "before tax" (*i.e.* before deductions for income taxes). In Table D3.1, salary per hour of net contact divides a teacher's annual statutory salary (Table D3.1) by the annual net teaching time in hours (see Table D4.1).

Gross teachers' salaries were converted using GDP and purchasing power parities (PPPs) and exchange rate data from the OECD National Accounts database. The period of reference for teachers' salaries is from 1 July 2007 to 30 June 2008. The reference date for GDP per capita and PPPs is 2007-08. Data are adjusted for inflation with reference to January 2008. For countries with different financial years (Australia and New Zealand) and slightly different salary periods (Finland, Hungary and Norway) from the OECD norm, a correction to the deflator is made only if this results in an adjustment of over 1%. Small adjustments have been discounted because even for salaries referring to 2007-08, the exact period for which they apply will be only slightly different. Reference statistics and reference years for teachers' salaries are provided in Annex 2.

Earnings for workers with tertiary education are average earnings for full-time full-year workers in the age group 25-64 years and with education at ISCED 5A/5B/6. The relative salary indicator is calculated for the latest year with earnings data available. For countries in which teachers' salary and workers' earnings information are not available for the same year (*e.g.* Poland), the indicator is adjusted for inflation using the GDP deflator. Reference statistics for earnings for workers with tertiary education are provided in Annex 2 and Annex 3.

For the calculation of changes in teachers' salaries (Table D3.2), the GDP deflator is used to convert 1996 salaries to 2008 prices.

Starting salaries refer to the average scheduled gross salary per year for a full-time teacher with the minimum training necessary to be fully qualified at the beginning of the teaching career.

Salaries after 15 years of experience refer to the scheduled annual salary of a full-time classroom teacher with the minimum training necessary to be fully qualified plus 15 years of experience. The maximum salaries reported refer to the scheduled maximum annual salary (top of the salary scale) of a full-time classroom teacher with the minimum training to be fully qualified for the job.

An adjustment to base salary is defined as any difference in salary between what a particular teacher actually receives for work performed at a school and the amount that he or she would expect to receive on the basis of experience (*i.e.* number of years in the teaching profession). Adjustments may be temporary or permanent, and they can effectively move a teacher off the scale and to a different salary scale or to a higher step on the same salary scale.

Further references

Specific notes on definitions and methodologies regarding this indicator for each country are given in Annex 3 at *www.oecd.org/edu/eag2010*.

As a complement to Table D3.1, which presents teachers' salaries in equivalent USD, converted using PPPs, a table with teachers' salaries in equivalent EUR converted using PPPs is included in Annex 2.

See also:

OECD (2005), *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, OECD Publishing.

The following additional material relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310510

- ***Table D3.3b. Decisions made by school principal on payments for teachers in public institutions (2008)***
- ***Table D3.3c. Decisions made by local or regional authority on payments for teachers in public institutions (2008)***
- ***Table D3.3d. Decisions made by the national authority on payments for teachers in public institutions (2008)***

Table D3.1.

Teachers' salaries (2008)

Annual statutory teachers' salaries in public institutions at starting salary, after 15 years of experience and at the top of the scale, by level of education, in equivalent USD converted using PPPs

		Primary education				Lower secondary education				Upper secondary education				
		Starting salary / minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/ minimum training	Ratio of salary at top of scale to starting salary	Starting salary / minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/ minimum training	Ratio of salary at top of scale to starting salary	Starting salary / minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/ minimum training	Ratio of salary at top of scale to starting salary	Years from starting to top salary (lower secondary education)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
OECD countries	Australia	33 153	46 096	46 096	1.39	33 336	46 908	46 908	1.41	33 336	46 908	46 908	1.41	9
	Austria	28 622	37 914	56 709	1.98	29 928	40 993	58 921	1.97	30 353	42 177	62 045	2.04	34
	Belgium (Fl.)	29 223	41 093	50 190	1.72	29 223	41 093	50 190	1.72	36 360	52 667	63 391	1.74	27
	Belgium (Fr.)	28 115	39 430	48 163	1.71	28 115	39 430	48 163	1.71	34 885	50 541	60 838	1.74	27
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	16 013	21 652	23 693	1.48	15 976	22 084	24 049	1.51	16 587	23 540	25 846	1.56	32
	Denmark	37 449	42 308	42 308	1.13	37 449	42 308	42 308	1.13	39 085	51 034	51 034	1.31	8
	England	30 534	44 630	44 630	1.46	30 534	44 630	44 630	1.46	30 534	44 630	44 630	1.46	10
	Finland	29 386	38 217	47 976	1.63	32 513	40 953	51 512	1.58	32 731	44 919	57 925	1.77	16
	France	23 735	31 927	47 108	1.98	26 123	34 316	49 607	1.90	26 400	34 593	49 912	1.89	34
	Germany	43 524	54 184	58 510	1.34	48 004	59 156	65 925	1.37	51 722	63 634	72 876	1.41	28
	Greece	25 974	31 946	38 658	1.49	25 974	31 946	38 658	1.49	25 974	31 946	38 658	1.49	33
	Hungary	12 175	15 049	20 208	1.66	12 175	15 049	20 208	1.66	13 226	18 079	25 523	1.93	40
	Iceland	24 266	27 226	30 774	1.27	24 266	27 226	30 774	1.27	25 503	31 983	33 483	1.31	18
	Ireland	32 657	54 100	61 304	1.88	32 657	54 100	61 304	1.88	32 657	54 100	61 304	1.88	22
	Italy	26 074	31 520	38 381	1.47	28 098	34 331	42 132	1.50	28 098	35 290	44 041	1.57	35
	Japan	27 545	48 655	61 518	2.23	27 545	48 655	61 518	2.23	27 545	48 655	63 184	2.29	34
	Korea	31 532	54 569	87 452	2.77	31 407	54 444	87 327	2.78	31 407	54 444	87 327	2.78	37
	Luxembourg	48 793	67 723	101 163	2.07	71 508	98 849	124 231	1.74	71 508	98 849	124 231	1.74	30
	Mexico	14 552	19 072	31 557	2.17	18 620	24 261	40 094	2.15	m	m	m	m	14
	Netherlands	35 428	45 916	51 226	1.45	36 403	50 227	55 929	1.54	36 762	67 105	73 964	2.01	17
	New Zealand	25 964	38 412	38 412	1.48	25 964	38 412	38 412	1.48	25 964	38 412	38 412	1.48	8
	Norway	29 635	37 023	37 023	1.25	29 635	37 023	37 023	1.25	31 652	39 016	39 016	1.23	16
	Poland	7 127	14 094	14 686	2.06	8 076	16 137	16 818	2.08	9 173	18 548	19 334	2.11	10
	Portugal	21 677	35 486	55 654	2.57	21 677	35 486	55 654	2.57	21 677	35 486	55 654	2.57	31
	Scotland	30 475	48 611	48 611	1.60	30 475	48 611	48 611	1.60	30 475	48 611	48 611	1.60	6
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	37 172	42 796	52 391	1.41	40 729	46 794	56 728	1.39	42 440	48 945	59 234	1.40	38
	Sweden	28 409	33 055	37 967	m	28 984	33 885	38 431	m	30 533	36 163	41 131	m	a
	Switzerland	44 308	56 493	69 354	1.57	50 427	64 580	78 801	1.56	58 781	76 207	89 655	1.53	27
	Turkey	m	m	m	m	m	m	m	a	m	m	m	m	m
	United States	35 999	44 172	50 922	m	35 915	44 000	53 972	m	36 398	47 317	53 913	m	m
	OECD average	*28 949*	*39 426*	*48 022*	*1.71*	*30 750*	*41 927*	*50 649*	*1.70*	*32 563*	*45 850*	*54 717*	*1.74*	*24*
	EU19 average	*28 628*	*38 582*	*46 977*	*1.69*	*30 731*	*41 519*	*49 700*	*1.67*	*32 059*	*45 043*	*54 009*	*1.75*	*25*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	11 981	12 687	17 510	1.46	11 981	12 687	17 510	1.46	11 981	12 687	17 510	1.46	7
	India	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	1 617	2 046	2 331	1.44	1 723	2 331	2 532	1.47	1 995	2 582	2 813	1.41	32
	Israel	18 199	19 868	27 680	1.52	18 199	22 410	27 680	1.52	18 199	22 410	27 680	1.52	36
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	27 470	32 075	33 967	1.24	27 470	32 075	33 967	1.24	27 470	32 075	33 967	1.24	13

Note: Ratio of salary at the top of the scale to starting salary has not been calculated for Sweden and the United States because the underlying salaries are estimates derived from actual rather than statutory salaries.

Source: OECD. China, India and Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table D3.1. *(continued)*

Teachers' salaries (2008)

Annual statutory teachers' salaries in public institutions at starting salary, after 15 years of experience and at the top of the scale, by level of education, in equivalent USD converted using PPPs

		Ratio of salary after 15 years of experience (minimum training) to GDP per capita			Ratio of salary after 15 years of experience (minimum training) to earnings for full-time full-year workers with tertiary education aged 25 to 64			Salary per hour of net contact (teaching) time after 15 years of experience			Ratio of salary per teaching hour of upper secondary to primary teachers (after 15 years of experience)
		Primary education	Lower secondary education	Upper secondary education	Primary education	Lower secondary education	Upper secondary education	Primary education	Lower secondary education	Upper secondary education	
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
OECD countries	Australia[1]	1.25	1.27	1.27	0.93	0.94	0.94	53	58	58	1.10
	Austria[1]	1.02	1.10	1.13	0.72	0.77	0.79	49	68	72	1.47
	Belgium (Fl.)[1]	1.17	1.17	1.51	0.90	0.90	1.14	51	59	81	1.60
	Belgium (Fr.)[1]	1.13	1.13	1.44	0.86	0.86	1.10	54	60	84	1.54
	Chile	m	m	m	m	m	m	m	m	m	m
	Czech Republic[2]	0.89	0.91	0.97	0.49	0.50	0.53	25	35	39	1.52
	Denmark[1]	1.16	1.16	1.40	0.85	0.85	1.06	65	65	140	2.15
	England[2]	1.26	1.26	1.26	0.82	0.82	0.82	68	62	62	0.91
	Finland[3]	1.07	1.15	1.26	0.87	0.93	1.02	56	69	82	1.45
	France[1]	0.97	1.05	1.05	0.78	0.85	0.85	34	53	55	1.59
	Germany[2]	1.55	1.69	1.82	0.89	0.97	1.04	67	78	89	1.32
	Greece[1]	1.13	1.13	1.13	0.74	0.74	0.74	54	75	75	1.38
	Hungary[2]	0.78	0.78	0.94	0.50	0.50	0.60	25	25	30	1.20
	Iceland[1]	0.74	0.74	0.87	0.50	0.50	0.61	41	41	57	1.41
	Ireland	1.26	1.26	1.26	m	m	m	59	74	74	1.25
	Italy[1]	1.01	1.10	1.13	0.54	0.58	0.60	43	57	59	1.37
	Japan	1.44	1.44	1.44	m	m	m	69	81	97	1.42
	Korea[3]	2.01	2.01	2.01	0.82	0.81	0.81	65	88	90	1.39
	Luxembourg	0.81	1.18	1.18	m	m	m	92	156	156	1.70
	Mexico	1.33	1.69	m	m	m	m	24	23	m	m
	Netherlands[1]	1.14	1.25	1.66	0.73	0.80	1.07	49	67	89	1.81
	New Zealand[2]	1.42	1.42	1.42	0.97	0.97	0.97	39	40	40	1.04
	Norway[3]	0.66	0.66	0.69	0.66	0.66	0.70	50	57	75	1.49
	Poland[2]	0.84	0.96	1.10	0.59	0.68	0.78	27	31	36	1.32
	Portugal[1]	1.55	1.55	1.55	0.72	0.72	0.72	42	47	47	1.14
	Scotland[2]	1.38	1.38	1.38	0.89	0.89	0.89	57	57	57	1.00
	Slovak Republic	m	m	m	m	m	m	m	m	m	m
	Spain[3]	1.36	1.49	1.56	1.12	1.26	1.28	49	66	71	1.45
	Sweden[3]	0.90	0.92	0.98	0.90	0.93	0.99	m	m	m	m
	Switzerland	1.34	1.53	1.80	m	m	m	m	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m	m
	United States[2]	0.94	0.94	1.01	0.60	0.60	0.65	40	41	45	1.12
	OECD average	*1.16*	*1.22*	*1.29*	*0.77*	*0.79*	*0.86*	*50*	*60*	*71*	*1.39*
	EU19 average	*1.12*	*1.18*	*1.29*	*0.77*	*0.81*	*0.89*	*51*	*63*	*73*	*1.43*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m	m
	Estonia[2]	0.61	0.61	0.61	0.70	0.70	0.70	20	20	22	1.09
	India	m	m	m	m	m	m	m	m	m	m
	Indonesia	0.51	0.59	0.65	m	m	m	m	m	m	m
	Israel[2]	0.73	0.82	0.82	0.49	0.56	0.56	26	37	41	1.57
	Russian Federation	m	m	m	m	m	m	m	m	m	m
	Slovenia[1]	1.18	1.18	1.18	0.55	0.55	0.55	47	47	51	1.09

1. Year of reference 2006 for Columns 17, 18 and 19.
2. Year of reference 2008 for Columns 17, 18 and 19.
3. Year of reference 2007 for Columns 17, 18 and 19.

Source: OECD. China, India and Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table D3.2.

Change in teachers' salaries (between 1996 and 2008)

Index of change[1] between 1996 and 2008 in teachers' salaries at starting salary, after 15 years of experience and at the top of the salary scale, by level of education, converted to 2008 price levels using GDP deflators (1996 = 100)

		Primary education			Lower secondary education			Upper secondary education, general programmes		
		Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	128	98	98	129	100	100	129	100	100
	Austria	110	113	108	111	117	105	106	110	98
	Belgium (Fl.)[2]	105	109	112	102	103	103	103	103	103
	Belgium (Fr.)[2]	101	105	108	98	99	99	98	99	99
	Chile	m	m	m	m	m	m	m	m	m
	Czech Republic	w	w	w	w	w	w	w	w	w
	Denmark	123	113	111	123	113	111	117	108	103
	England	124	107	107	124	107	107	124	107	107
	Finland	133	131	159	131	118	142	128	124	151
	France	w	w	w	w	w	w	w	w	w
	Germany	w	w	w	w	w	w	w	w	w
	Greece	112	116	119	109	113	116	109	113	116
	Hungary	204	186	193	204	186	193	174	180	203
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	118	126	121	112	119	120	112	119	120
	Italy	109	109	110	108	108	108	108	108	108
	Japan	106	109	96	106	109	96	106	109	96
	Korea	w	w	w	w	w	w	w	w	w
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	131	130	131	132	135	138	m	m	m
	Netherlands	106	112	102	103	113	101	103	108	101
	New Zealand	133	116	116	133	116	116	133	116	116
	Norway	98	101	100	98	101	100	97	103	96
	Poland	m	m	m	m	m	m	m	m	m
	Portugal	102	111	100	102	111	100	102	111	100
	Scotland	120	115	115	120	115	115	120	115	115
	Slovak Republic	m	m	m	m	m	m	m	m	m
	Spain	100	98	94	m	m	m	98	96	93
	Sweden	w	w	w	w	w	w	w	w	w
	Switzerland	99	94	100	m	m	m	m	m	m
	Turkey	w	w	w	a	a	a	w	w	w
	United States	110	107	m	111	106	m	112	113	m
Partner countries	Brazil	m	m	m	m	m	m	m	m	m
	Estonia	179	177	228	179	177	228	179	177	228
	Israel	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m
	Slovenia	m	m	m	m	m	m	m	m	m

1. The index is calculated as (Teacher salary 2008 in national currency) * 100/ (Teacher salary 1996 in national currency * GDP deflator 2008) (1996=100). See Annex 2 for statistics on GDP deflators and salaries in national currencies in 1996 and 2008.
2. The data for Belgium in 1996 are based on Belgium as a whole.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table D3.3a.

Decisions on payments for teachers in public institutions (2008)

Criteria for base salary and additional payments awarded to teachers in public institutions

		Experience			Criteria based on teaching conditions/responsibilities																				
		Years of experience as a teacher			Management responsibilities in addition to teaching duties			Teaching more classes or hours than required by full-time contract			Special tasks (career guidance or counselling)			Teaching in a disadvantaged, remote or high cost area (location allowance)			Special activities (*e.g.* sports and drama clubs, homework clubs, summer school, etc.)			Teaching students with special educational needs (in regular schools)			Teaching courses in a particular field		
OECD countries	Australia	–			–									▲						▲					
	Austria	–	▲			▲			▲			▲						△							
	Belgium (Fl.)	–								△															
	Belgium (Fr.)	–											△												
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	–	▲	△	–	▲	△		▲	△		▲	△					▲	△	–	▲	△			
	Denmark	–	▲	△	–	▲	△		▲	△		▲	△	–	▲	△		▲	△		▲	△		▲	△
	England	–	▲	△	–	▲	△							–	▲	△				–	▲	△	–	▲	△
	Finland		▲		–				▲	△		▲	△	–	▲			▲	△	–			–	▲	△
	France	–				▲	△		▲	△		▲	△	–	▲				△	–					
	Germany	–			–					△															
	Greece	–				▲				△		▲			▲										
	Hungary	–				▲				△		▲			▲				△		▲				
	Iceland	–	▲	△	–	▲	△		▲	△	–	▲	△					▲	△	–	▲	△			
	Ireland	–	▲	△	–	▲								–	▲										
	Italy	–					△			△			△		▲				△						
	Japan	–				▲			▲						▲				△		▲				
	Korea	–				▲				△						△					▲			▲	
	Luxembourg	–								△			△							–					
	Mexico	–	▲	△	–	▲		–	▲		–	▲		–	▲								–	▲	
	Netherlands	–	▲	△	–	▲	△	–	▲	△	–		△	–	▲	△	–	▲	△	–	▲	△	–	▲	△
	New Zealand	–				▲						▲			▲			▲			▲			▲	
	Norway	–				▲				△	–	▲	△		▲			▲	△						
	Poland	–		△					▲			▲			▲						▲				
	Portugal	–				▲				△		▲								–					
	Scotland	–													▲										
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	–				▲									▲										
	Sweden	–			–					△				–									–		
	Switzerland	–			–					△			△						△	–					
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	–				▲								–	▲			▲						▲	
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	–				▲	△		▲	△	–	▲	△	–	▲	△		▲	△		▲	△			
	Israel	–			–			–			–			–						–					
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia	–			–					△			△		▲				△		▲			▲	

– : Decisions on position in base salary scale
▲ : Decisions on supplemental payments which are paid every year
△ : Decisions on supplemental incidental payments

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310510

Table D3.3a. *(continued)*

Decisions on payments for teachers in public institutions (2008)

Criteria for base salary and additional payments awarded to teachers in public institutions

		Criteria related to teachers' qualifications, training and performance																Criteria based on demography						Other		
		Holding an initial educational qualification higher than the minimum qualification required to enter the teaching profession			Holding a higher than minimum level of teacher certification or training obtained during professional life			Outstanding performance in teaching			Successful completion of professional development activities			Reaching high scores in the qualification examination			Holding an educational qualification in multiple subjects			Family status (married, number of children)			Age (independent of years of teaching experience)					
OECD countries	Australia	–			–																▲							
	Austria									△											▲						▲	
	Belgium (Fl.)	–				▲																					▲	
	Belgium (Fr.)	–			–																						▲	△
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic							–	▲	△														–		△			
	Denmark	–	▲	△	–	▲	△		▲	△		▲	△				–	▲	△									
	England	–	▲	△				–	▲	△																		
	Finland	–			–	▲			▲			▲					–											
	France										–										▲							
	Germany																			–			–					
	Greece	–				▲															▲					–		
	Hungary	–			–					△	–							▲									▲	
	Iceland	–	▲	△	–	▲	△					▲	△			△			△					–	▲			
	Ireland	–	▲		–	▲																						
	Italy																			–								
	Japan																				▲						▲	
	Korea												△									△		▲				
	Luxembourg				–						–										▲			–				
	Mexico	–	▲		–	▲		–	▲		–	▲		–	▲													
	Netherlands	–	▲	△	–	▲	△	–	▲	△	–	▲	△	–	▲	△	–	▲	△									
	New Zealand	–			–				▲																		▲	
	Norway	–	▲			▲			▲			▲			▲			▲							▲			
	Poland	–	▲	△					▲	△	–					△											▲	△
	Portugal	–			–						–			–							▲							
	Scotland				–																							
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Spain					▲					–																	
	Sweden	–			–			–			–			–														
	Switzerland																				▲						▲	
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	–	▲		–	▲				△	–	▲																
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	–			–				▲	△	–							▲	△					–				
	Israel	–			–						–									–			–					
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia		▲		–					△	–																▲	

– : Decisions on position in base salary scale
▲ : Decisions on supplemental payments which are paid every year
△ : Decisions on supplemental incidental payments

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310510

INDICATOR D4

HOW MUCH TIME DO TEACHERS SPEND TEACHING?

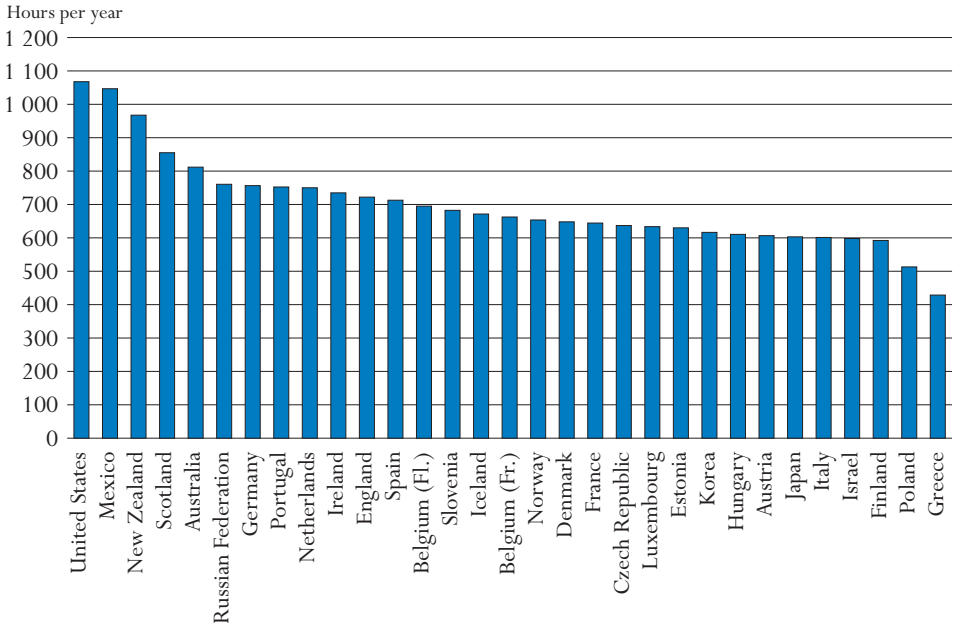
This indicator focuses on the statutory working time and statutory teaching time of teachers at different levels of education. Although working time and teaching time only partly determine teachers' actual workload, they do give valuable insight into differences in what is demanded of teachers in different countries. Together with teachers' salaries (see Indicator D3) and average class size (see Indicator D2), this indicator presents some key measures of the working lives of teachers.

Key results

Chart D4.1. Number of teaching hours per year in lower secondary education (2008)

Net contact time in hours per year in public institutions

The number of teaching hours in public lower secondary schools averages 703 hours per year but ranges from less than 520 hours in Greece (429) and Poland (513) to over 1 000 in Mexico (1 047) and the United States (1 068).



Countries are ranked in descending order of the number of teaching hours per year in lower secondary education.
Source: OECD. Table D4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310529

Other highlights of this indicator

- The number of teaching hours in public primary schools averages 786 per year (13 less than in 2007), but ranges from less than 650 in Denmark, Greece, Hungary, Poland and the partner country Estonia to 1 097 in the United States.
- The average number of teaching hours in upper secondary general education is 661, but ranges from 364 in Denmark to 1 051 in the United States.
- The composition of teachers' annual teaching time, in terms of days, weeks and hours per day, varies considerably. For instance, while teachers in Denmark teach for 42 weeks per year (in primary and secondary education) and teachers in Iceland for 35-36 weeks per year, teachers in Iceland have more total annual teaching time (in hours) than teachers in Denmark.
- Regulations concerning teachers' required working time also vary. In most countries, teachers are formally required to work a specific number of hours; in some, teaching time is only specified by the number of lessons per week and assumptions may be made about the amount of non-teaching time required per lesson (at school or elsewhere). For example, in Belgium (French Community), additional non-teaching hours at school are set at the school level; the government only defines the minimum and maximum number of teaching periods per week at each level of education.

D4

Policy context

In addition to class size and the ratio of students to teaching staff (see Indicator D2), students' hours of instruction (see Indicator D1) and teachers' salaries (see Indicator D3), the amount of time teachers spend teaching affects the financial resources countries need to allocate to education (see Indicator B7). Teaching hours and the extent of non-teaching duties are also important elements of teachers' work and may determine the attractiveness of the teaching profession.

The proportion of working time spent teaching provides information on the amount of time available for activities such as lesson preparation, correction, in-service training and staff meetings. A large proportion of working time spent teaching may indicate that less working time is devoted to tasks such as student assessment and lesson preparation. However, such duties may be performed at the same level as for teachers with less teaching time but outside of regulatory working hours.

Evidence and explanations

Teaching time in primary education

In both primary and secondary education, countries vary in terms of the number of teaching hours per year required of the average public school teacher. There are usually more teaching hours in primary education than in secondary education.

A primary school teacher teaches an average of 786 hours per year (13 less than in 2007), but this ranges from less than 650 hours in Denmark (648), Greece (593), Hungary (611), Poland (513) and the partner country Estonia (630) to 900 or more in France (926), Ireland (915), the Netherlands (930) and New Zealand (985) and over 1 000 in the United States (1097) (Chart D4.2 and Table D4.1).

Teaching time can be distributed quite differently throughout the year. Korea is the only country in which primary teachers must complete the largest number of days of instruction (220), yet their average teaching time per day is only 3.8 hours (below the OECD average of 4.2). Denmark and Iceland provide an interesting contrast in this respect. They have similar annual net teaching time in terms of hours (Chart D4.2). However, teachers in Denmark must complete 200 days of instruction in 42 weeks, and those in Iceland 180 days in 36 weeks. The number of hours taught per day of instruction explains the difference. Primary teachers in Iceland complete 20 fewer days of instruction than teachers in Denmark, but each of these days includes, on average, 3.7 hours of teaching compared to 3.2 in Denmark. Iceland's teachers must provide just over half an hour more teaching time per day of instruction than Denmark's teachers, but this relatively small difference is combined with a substantial difference in the number of days of instruction they must complete each year.

With the exception of Belgium (French Community), Greece, Portugal and Scotland, in most OECD countries with available data, teaching time in primary education was about the same in 1996 and 2008. In Portugal, primary teachers were required to teach 9% more in 2008 than in 1996, while in Greece the net contract time dropped by 24% in primary education (Table D4.2).

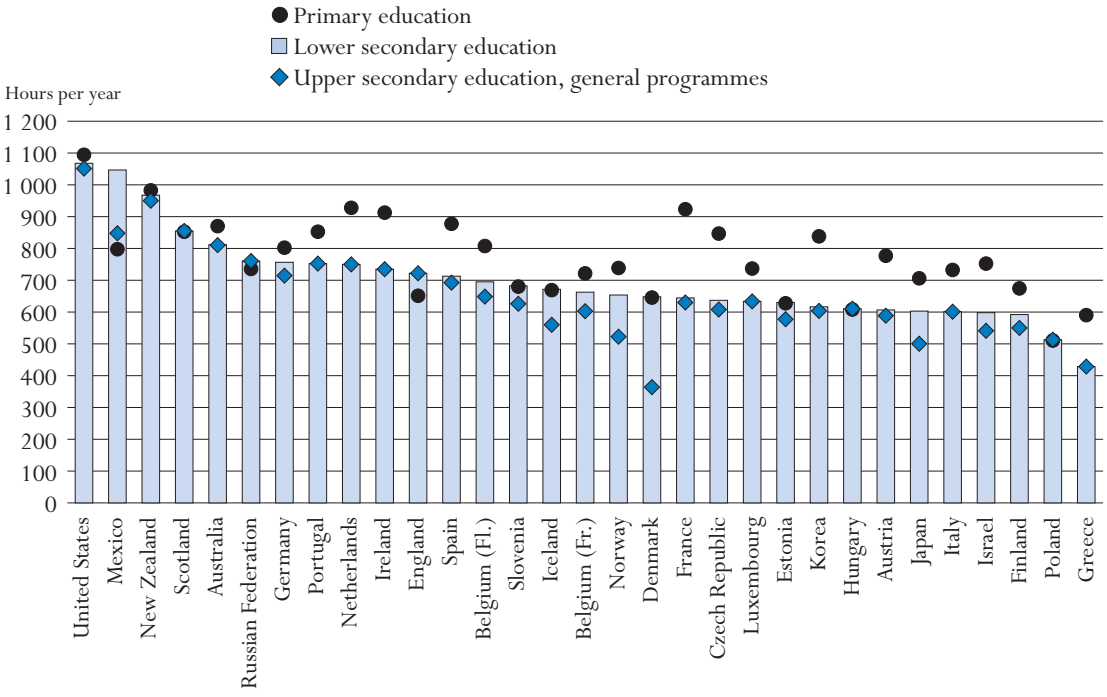
Teaching time in secondary education

Lower secondary education teachers teach an average of 703 hours per year. The teaching load ranges from less than 600 hours in Finland (592), Greece (429), Poland (513) and the partner country Israel (598) to more than 1 000 hours in Mexico (1 047) and the United States (1 068) (Chart D4.1 and Table D4.1).

The upper secondary general education teaching load is usually lighter than that of lower secondary education. A teacher of general subjects has an average statutory teaching load of 661 hours per year. Teaching loads range from 364 hours in Denmark to 800 or more in Australia (810), Mexico (848), and Scotland (855), over 900 in New Zealand (950) and over 1 000 in the United States (1 051) (Chart D4.2 and Table D4.1).

Chart D4.2. Number of teaching hours per year, by level of education (2008)

Net contact time in hours per year in public institutions



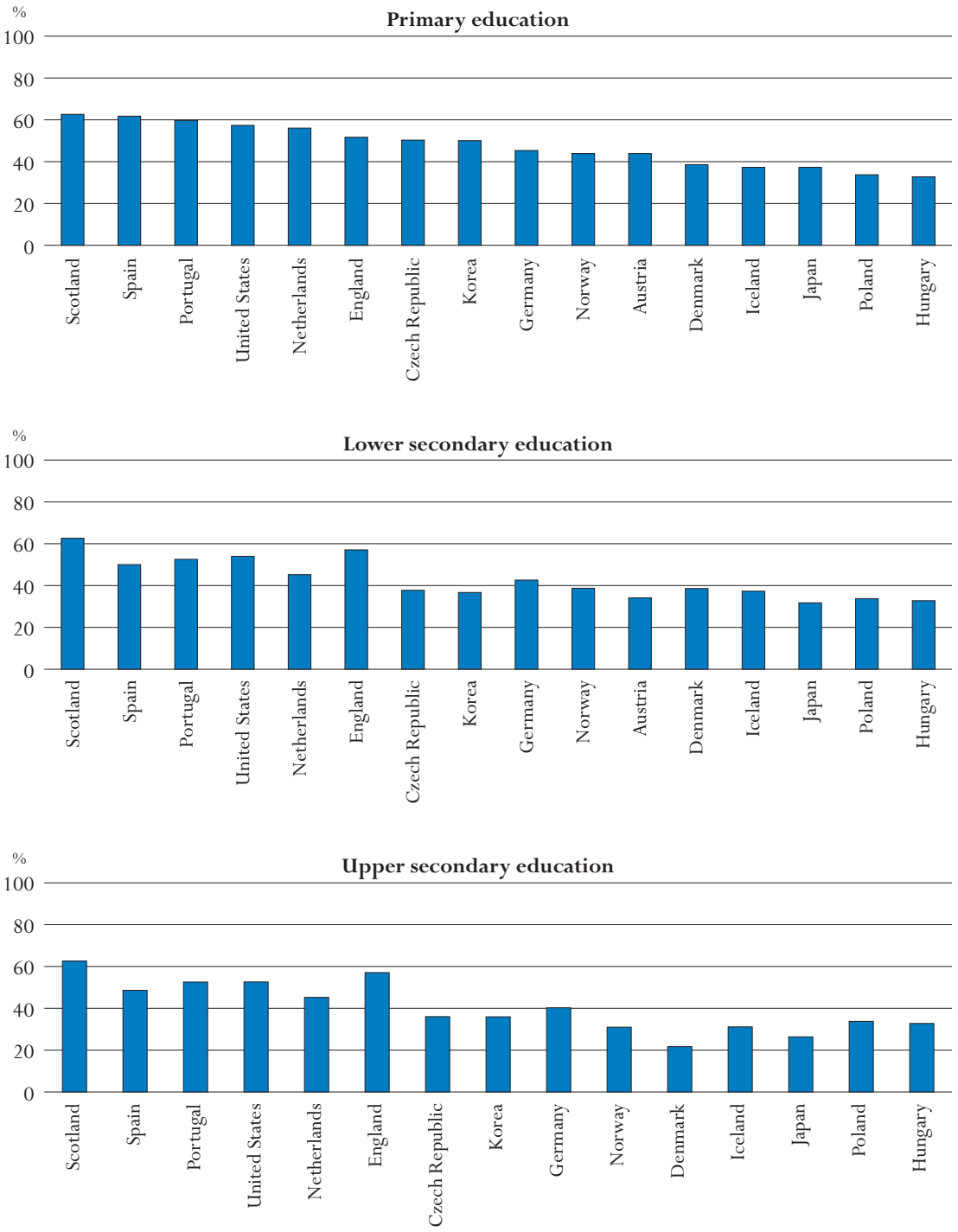
Countries are ranked in descending order of the number of teaching hours per year in lower secondary education.
Source: OECD. Table D4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310529

As is the case for primary teachers, the number of hours of teaching time and the number of days of instruction for secondary education teachers vary. As a consequence, the average hours per day that teachers teach also vary widely, ranging at the lower secondary level from three hours or less per day in Greece, Japan, Korea and Poland to five or more in Mexico, New Zealand and the United States. Similarly, at the upper secondary general level, teachers in Denmark, Finland, Greece, Japan, Korea, Norway and Poland teach for three hours or less per day on average, compared to five hours or more in New Zealand and the United States (Chart D4.3). Korea provides an interesting example of the differences in the organisation of teachers' work. Korea is the only country in which secondary teachers teach for more than five days per week on average, yet their total annual teaching time is below the average because they teach, on average, fewer hours per day. The inclusion of breaks between classes in teaching time in some countries, but not in others may explain some of these differences.

Chart D4.3. Percentage of teachers' working time spent teaching, by level of education (2008)

Net teaching time as a percentage of total statutory working time



Countries are ranked in descending order of the percentage of teachers' working time spent teaching in primary education.
Source: OECD. Table D4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310529

At the lower secondary level, half of the countries for which data are available saw at least a 5% change in teaching time between 1996 and 2008, and at the upper secondary level, this was also the case in ten out of sixteen countries. However, the direction of change varies. In Hungary, secondary teachers were required to teach 29% more in 2008 than in 1996 and in Portugal, upper secondary teachers were required to teach 31% more. In Denmark, teaching time dropped by 35% in upper secondary education and in Greece it dropped by 32% in both lower and upper secondary education (Table D4.2).

Teaching time contrasts between levels

In the Czech Republic, France and Korea, a primary teacher is required to teach over 200 hours more than a lower secondary teacher. In addition to these countries, a primary teacher in Denmark, Japan, Norway and the partner country Israel is required to teach over 200 hours more than an upper secondary teacher (general programmes). By contrast, there is a difference of less than 60 hours, or even no difference, between the number of required teaching hours for primary and lower secondary teachers and sometimes also for primary and upper secondary teachers in Denmark, Germany, Hungary, Iceland, New Zealand, Poland, Scotland, the United States and the partner countries Estonia and Slovenia. England, Mexico and the partner country the Russian Federation are the only countries in which secondary teachers complete a larger number of hours of teaching than primary teachers. In Mexico, required teaching hours for lower secondary teachers are just over 30% more than for primary teachers. Upper secondary teachers in Mexico have a smaller number of teaching hours than lower secondary teachers but their required teaching hours are still 6% higher than for primary teachers (Chart D4.1). This is largely because of greater daily contact time.

In interpreting differences in teaching hours among countries, it should be noted that net contact time, as used for the purpose of this indicator, does not necessarily correspond to the teaching load. Contact time is a substantial component, but preparation for classes and necessary follow-up (including correcting students' work) also need to be included in comparisons of teaching loads. Other relevant elements (such as the number of subjects taught, the number of students taught, and the number of years a teacher teaches the same students) should also be taken into account.

Teachers' working time

The regulation of teachers' working time varies considerably. While some countries formally regulate contact time only, others also establish working hours. In some countries, time is allocated for teaching and non-teaching activities within the formally established working time.

In most countries, teachers are formally required to work a specified number of hours per week to earn their full-time salary; this includes teaching and non-teaching time. Within this framework, however, countries differ in the allocation of time to teaching and non-teaching activities (Chart D4.3). Typically, the number of hours for teaching is specified (except in Sweden), but some countries also regulate at the national level the time a teacher has to be present in the school.

Australia, Belgium (Flemish Community for primary education), Denmark (primary and lower secondary education), England, Greece, Iceland, Ireland, Luxembourg, Mexico, New Zealand, Norway, Portugal, Spain, Sweden, the United States and the partner countries Estonia and Israel specify the time during which teachers are required to be available at school, for both teaching and non-teaching time.

Greece applies a reduction of teaching hours in line with years of service. At the secondary level, teachers have 21 teaching hours per week. After 6 years, this drops to 19 and after 12 years to 18. After 20 years of service, teachers have 16 teaching hours a week, nearly three-quarters that of early career teachers. However, the remaining hours of teachers' working time must be spent at school.

In Austria (primary and lower secondary education), the Czech Republic, Germany, Hungary, Japan, Korea, the Netherlands, Poland and Scotland, teachers' total annual working time, at school or elsewhere, is specified (but the split between time spent at school and time spent elsewhere is not). In addition, in some countries the number of hours to be spent on non-teaching activities is also (partly) specified. However, it is not specified whether or not the teachers have to spend the non-teaching hours at school.

Non-teaching time

In Belgium (French Community), Finland, France, Italy and partner countries the Russian Federation and Slovenia, there are no formal requirements for primary and secondary education as to how much time should be spent on non-teaching duties. However, this does not mean that teachers are given total freedom to carry out other tasks. In Austria, provisions concerning teaching time are based on the assumption that the teacher's duties (including preparing lessons and tests, marking and correcting papers, examinations, and administrative tasks) amount to total working time of 40 hours per week. In Belgium (Flemish Community), the additional non-teaching hours at school are set at the school level. There are no regulations regarding lesson preparation, correction of tests, marking students' papers, etc. The government defines only the minimum and maximum number of teaching periods a week (of 50 minutes each) at each level of education (Table D4.1).

Definitions and methodologies

Data are from the 2009 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2007-08.

Teaching time

Teaching time is defined as the number of hours per year that a full-time teacher teaches a group or class of students as set by policy. It is normally calculated as the number of teaching days per year multiplied by the number of hours a teacher teaches per day (excluding periods of time formally allowed for breaks between lessons or groups of lessons). Some countries, however, provide estimates of teaching time based on survey data.

At the primary level, short breaks between lessons are included if the classroom teacher is responsible for the class during these breaks.

Working time

Working time refers to the normal working hours of a full-time teacher. According to a country's formal policy, working time can refer to:

- the time directly associated with teaching (and other curricular activities for students, such as assignments and tests, but excluding annual examinations); and
- the time directly associated with teaching and hours devoted to other activities related to teaching, such as lesson preparation, counselling students, correcting assignments and tests, professional development, meetings with parents, staff meetings, and general school tasks.

Working time does not include paid overtime.

Working time in school

Working time in school refers to the time teachers are required to spend at work, including teaching and non-teaching time.

Number of teaching weeks and days

The number of teaching weeks refers to the number of weeks of instruction excluding holiday weeks. The number of teaching days is the number of teaching weeks multiplied by the number of days per week a teacher teaches, less the number of days on which the school is closed for holidays.

D4

Table D4.1.

Organisation of teachers' working time (2008)

Number of teaching weeks, teaching days, net teaching hours, and teacher working time over the school year, in public institutions

		Number of weeks of instruction			Number of days of instruction			Net teaching time in hours			Working time required at school in hours			Total statutory working time in hours		
		Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD countries	Australia	40	40	40	196	196	196	873	812	810	1 207	1 228	1 228	a	a	a
	Austria	38	38	38	180	180	180	779	607	589	a	a	a	1 776	1 776	a
	Belgium (Fl.)	37	37	37	180	181	181	810	695	649	936	a	a	a	a	a
	Belgium (Fr.)	37	37	37	181	181	181	724	662	603	a	a	a	a	a	a
	Chile	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	40	40	40	193	193	193	849	637	608	a	a	a	1 688	1 688	1 688
	Denmark	42	42	42	200	200	200	648	648	364	1 306	1 306	m	1 680	1 680	1 680
	England	38	38	38	190	190	190	654	722	722	1 265	1 265	1 265	1 265	1 265	1 265
	Finland	38	38	38	188	188	188	677	592	550	a	a	a	a	a	a
	France	36	36	36	m	m	m	926	644	630	a	a	a	a	a	a
	Germany	40	40	40	193	193	193	805	756	715	a	a	a	1 775	1 775	1 775
	Greece	36	32	32	178	158	158	593	429	429	1 140	1 170	1 170	a	a	a
	Hungary	37	37	37	185	185	185	611	611	611	a	a	a	1 864	1 864	1 864
	Iceland	36	36	35	180	180	175	671	671	560	1 650	1 650	1 720	1 800	1 800	1 800
	Ireland	37	33	33	183	167	167	915	735	735	1 036	735	735	a	a	a
	Italy	38	38	38	167	167	167	735	601	601	a	a	a	a	a	a
	Japan	40	40	40	201	201	198	709	603	500	a	a	a	1 899	1 899	1 899
	Korea	40	40	40	220	220	220	840	616	604	a	a	a	1 680	1 680	1 680
	Luxembourg	36	36	36	176	176	176	739	634	634	900	828	828	a	a	a
	Mexico	41	41	36	200	200	173	800	1047	848	800	1 167	971	a	a	a
	Netherlands	40	m	m	195	m	m	930	750	750	a	a	a	1 659	1 659	1 659
	New Zealand	39	39	38	197	194	190	985	968	950	985	968	950	a	a	a
	Norway	38	38	38	190	190	190	741	654	523	1 300	1 225	1 150	1 688	1 688	1 688
	Poland	38	38	38	185	185	185	513	513	513	a	a	a	1 520	1 520	1 520
	Portugal	37	37	37	171	171	171	855	752	752	1 261	1 261	1 261	1 432	1 432	1 432
	Scotland	38	38	38	190	190	190	855	855	855	a	a	a	1 365	1 365	1 365
	Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Spain	37	37	36	176	176	171	880	713	693	1 140	1 140	1 140	1 425	1 425	1 425
	Sweden	a	a	a	a	a	a	a	a	a	1 360	1 360	1 360	1 767	1 767	1 767
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	m	a	m	m	a	m	m	a	m	m	a	m	m	a	m
	United States	36	36	36	180	180	180	1 097	1 068	1 051	1 381	1 381	1 378	1 913	1 977	1 998
	OECD average	*38*	*38*	*37*	*187*	*186*	*184*	*786*	*703*	*661*	*1 178*	*1 192*	*1 166*	*1 659*	*1 662*	*1 657*
	EU19 average	*38*	*37*	*37*	*184*	*181*	*181*	*763*	*661*	*632*	*1 149*	*1 133*	*1 108*	*1 601*	*1 601*	*1 585*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	China	35	35	35	175	175	175	m	m	m	m	m	m	m	m	m
	Estonia	39	39	39	175	175	175	630	630	578	1 540	1 540	1 540	a	a	a
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	44	44	44	252	164	164	1 260	738	738	m	m	m	m	m	m
	Israel	43	42	42	185	178	178	755	598	541	981	783	712	a	a	a
	Russian Federation	34	35	35	164	169	169	738	761	761	a	a	a	a	a	a
	Slovenia	40	40	40	188	188	188	682	682	626	a	a	a	a	a	a

Source: OECD. India, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). China: The Ministry of Education, *Notes on the Experimental Curriculum of Compulsory Education,* 19 November 2001. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310529

Table D4.2.

Number of teaching hours per year (1996, 2008)

Net contact time in hours per year in public institutions by level of education, and index of change from 1996 to 2008

		Primary education			Lower secondary education			Upper secondary education, general programmes		
		2008	1996	Index of change 1996-2008 (1996 = 100)	2008	1996	Index of change 1996-2008 (1996 = 100)	2008	1996	Index of change 1996-2008 (1996 = 100)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	873	m	m	812	m	m	810	m	m
	Austria	779	684	114	607	658	92	589	623	95
	Belgium (Fl.)	810	841	96	695	724	96	649	679	96
	Belgium (Fr.)	724	858	84	662	734	90	603	677	89
	Chile	m	m	m	m	m	m	m	m	m
	Czech Republic	849	w	m	637	607	105	608	580	105
	Denmark	648	640	101	648	640	101	364	560	65
	England	654	w	m	722	w	m	722	m	m
	Finland	677	m	m	592	m	m	550	m	m
	France	926	900	103	644	647	100	630	636	99
	Germany	805	772	104	756	715	106	715	671	106
	Greece	593	780	76	429	629	68	429	629	68
	Hungary	611	w	m	611	473	129	611	473	129
	Iceland	671	m	m	671	m	m	560	m	m
	Ireland	915	915	100	735	735	100	735	735	100
	Italy	735	735	100	601	601	100	601	601	100
	Japan	709	m	m	603	m	m	500	m	m
	Korea	840	m	m	616	w	m	604	w	m
	Luxembourg	739	m	m	634	m	m	634	m	m
	Mexico	800	800	100	1 047	1 182	89	848	m	m
	Netherlands	930	930	100	750	867	87	750	867	87
	New Zealand	985	985	100	968	968	100	950	950	100
	Norway	741	713	104	654	633	103	523	505	104
	Poland	513	m	m	513	m	m	513	m	m
	Portugal	855	783	109	752	644	117	752	574	131
	Scotland	855	975	88	855	m	m	855	917	93
	Slovak Republic	m	m	m	m	m	m	m	m	m
	Spain	880	900	98	713	a	m	693	630	110
	Sweden	a	624	m	a	576	m	a	528	m
	Switzerland	m	871	m	m	850	m	m	669	m
	Turkey	m	m	m	a	a	a	m	m	m
	United States	1 097	w	m	1 068	w	m	1 051	w	m
	OECD average	***786***	***817***		***703***	***716***		***661***	***658***	
	EU19 average	***763***	***810***		***661***	***661***		***632***	***649***	
Partner countries	Brazil	m	m	m	800	m	m	800	m	m
	Estonia	630	m	m	630	m	m	578	m	m
	Israel	755	m	m	598	m	m	541	m	m
	Russian Federation	738	m	m	761	m	m	761	m	m
	Slovenia	682	m	m	682	m	m	626	m	m

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310529

INDICATOR D5

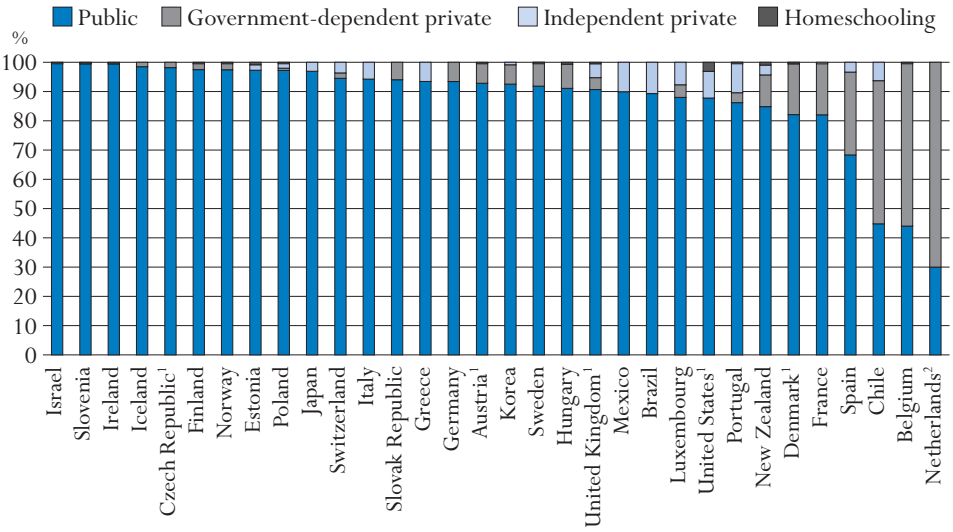
WHAT SCHOOL CHOICES ARE AVAILABLE AND WHAT MEASURES DO COUNTRIES USE TO PROMOTE OR RESTRICT SCHOOL CHOICE?

This indicator examines the available scope and nature of school choice. It also covers the means used by countries either to promote or restrict the choice of schools at the primary and lower secondary levels. Although there have been earlier comparisons of school choice systems based on a handful of country case studies, this is the first international study of school choice that collects and analyses data from comparable variables.

Key results

Chart D5.1. Distribution of students across diverse forms of educational institutions

Countries commonly have a variety of educational institutions in addition to public schools. Four in five OECD countries covered allow government-dependent private schools and independent private schools to provide compulsory education. In addition, over 70% of OECD countries reported that homeschooling could be a legal means of providing compulsory education. Actual enrolment patterns suggest that, in practice, enrolments in government-dependent private schools exceed 10% in only seven countries (Belgium, Chile, Denmark, France, the Netherlands, New Zealand and Spain) and exceed 10% in independent private schools in only three countries (Mexico, Portugal and the partner country Brazil). Only half of the countries reported enrolments in homeschooling, on average for only 0.4% of total enrolments.



Note: Several countries reported small numbers of students in homeschooling which comprised less than 0.01% of total enrolments.
1. Estimated for homeschooling.
2. Estimated for reference year 2006.
Countries are ranked in descending order according to the proportion of students reported in public schools.
Source: OECD. Table D5.2. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
StatLink http://dx.doi.org/10.1787/888932310548

Other highlights of this indicator

- Most countries rely on public schools to provide compulsory education, although alternatives exist.
- Countries generally permit choice among public schools, but nearly all initially assign students to a public school based on geographic location. Families must apply or seek permission to have their child(ren) attend another public school. They do not often do so.
- School choice assumes that schools differ and that parents can choose on the basis of school profiles or pedagogical practices. The nature and scope of regulations applicable to public and private schools may restrict the amount and significance of school choice in countries in which schools are more regulated. Regulation is most frequent in terms of a standardised curriculum and employment and certification standards for teachers.
- In addition to the direct funding that all countries provide to public schools and that many provide to private schools, they often also provide public financial support to families to help offset the cost of tuition and other schooling costs. Publicly funded vouchers or scholarships exist in 11 of the OECD countries surveyed. Tuition tax credits were reported in eight OECD countries.
- Families commonly pay full or partial tuition for private schools. In 20 out of 22 OECD countries, independent private schools also apply fees for specific activities or services. Such fees are also applied by government-dependent schools in 13 out of 23 OECD countries and for public schools in 2 out of 30.
- Opportunities for school choice have expanded in the last 25 years. More than half of the countries reported a reduction in restrictions on school choice among public schools. Twelve OECD countries reported the creation of new autonomous public schools and ten reported that new funding mechanisms had been put in place to promote school choice. Reforms to promote school choice most often applied to public schools and least often to independent private schools. Six OECD countries reported reforms which expanded opportunities for homeschooling in the last 25 years.

D5

Policy context

Exit, voice and loyalty are three options available to consumers when they face insufficient or deteriorating quality of goods or services (Hirschman, 1970). These options are also commonly used to explain or justify school choice. As applied to school choice, "exit" offers parents the possibility to select or choose a school other than the one assigned to their child. "Voice" refers to parents' opportunities to influence or change their child's school, and "loyalty" indicates that parents either might not have exit or voice options or choose not to exercise them.

School choice and parent voice are inextricably linked. When school choice is limited there is likely to be more parent voice (see Indicator D6). Similarly, when there are ample opportunities for "voice", fewer parents are likely to "exit" and choose another school for their children.

Theoretical arguments for school choice

The primary argument of proponents of school choice is that privatisation and competition will bring a much-needed dose of entrepreneurial spirit and a competitive ethos to public education. In theory, competition and the threat that consumers may choose to purchase goods and services from other providers create a strong incentive for providers to supply high-quality products and lower prices, lest consumers "vote with their feet" and take their business elsewhere. This is one of three arguments often used to justify the creation or expansion of school choice.

A second argument is that, with a wide variety of schools from which to choose, each of which provides a different mix of services, customers will choose the mix of services that best meets their educational preferences. The result will be schools that cater to a relatively narrow range of educational preferences. Sorting by preferences, it is argued, will reduce the amount of time schools spend resolving conflicts among stakeholders, leaving them more time and energy to devote to developing and implementing education programmes.

A third theoretical argument for school choice is that the creation of more autonomous schools will lead to innovations in curriculum, instruction and governance, which in turn will improve outcomes. Other schools, including those competing for the same students, could also improve by adopting innovative practices.

Categories of school choice

School choice can be categorised in various ways. Many frameworks use the extent to which schools are publicly or privately owned, governed and financed. Belfield and Levin (2005) considered five dimensions: sponsorship, governance, funding, production and outcomes.

The framework used for this indicator comprises four categories of schooling, each of which may include or promote school choice. The first covers publicly owned and financed schools, and the other three involve types of schools that are privately owned. In addition to considering these four categories, the framework distinguishes forms of school choice across the two ISCED levels that typically define compulsory education: primary and lower secondary. The upper secondary level (ISCED 3) is also commonly considered a component of compulsory school systems, but it is excluded because many countries diversify school options at this level to correspond to career tracks.

School choice within the public school sector typically refers to school choice among public schools governed by the same unit of government. This means that school choices available to parents are restricted to a specific district, municipality or region. When families are assigned to a public school based on geographic location, permission to enrol in another public school may require an exemption and may depend on the availability of places at another school.

School reforms instituted in a number of countries during the late 1980s and 1990s focused on the creation of new public schools with site-based management and greater autonomy from district or municipal authorities. In some countries, such autonomous public schools were created as new schools while in others, public schools were allowed to change their status or remove themselves from the control of district or municipal authorities.

As in the case of public schools, a number of reforms since the 1980s have promoted the creation of new private schools or the growth of existing private schools. When some countries increased government funding for private schools, some independent private schools became classified as government-dependent private schools.

Evidence and explanations

What this indicator does and does not cover

School choice is a very complex issue which is difficult to capture in a general survey. Given the nature of the data that can be collected at the national level, the focus was on the general structures of school choice and on certain types of government support or constraints that may promote or restrict school choice. The data collection emphasised regulations and structures more than practices, which may vary considerably at the local level. The annex to this indicator presents important details that qualify and explain countries' responses. The nine additional tables available on line also illustrate the complexity of this issue.

Types of schools from which to choose

Most countries permit a diverse array of educational institutions to operate and provide compulsory education. In addition to public schools, three forms of private school were considered: government-dependent private schools, independent private schools and homeschooling. However, enrolment patterns indicate that only a few countries have reasonably large enrolments in private schools. On average, government-dependent schools enrolled 14% of primary and lower-secondary students in the 22 OECD countries that reported students in this type of school. Independent private schools enrolled, on average, 4% of all students in primary and lower-secondary schools in the 22 OECD countries reporting enrolments. Sixteen OECD countries and three partner countries reported enrolments in homeschooling and, on average, this accounted for only 0.4% of total enrolments (Chart D5.1 and Table D5.2).

School choice can exist in the public school sector or among both public and private schools. The data collected suggest that parents are allowed to choose any public school they wish in 16 out of 29 OECD countries. In all but four countries (Belgium, Chile, the Netherlands and New Zealand), students are initially assigned a public school based on their geographic area. Most countries had some restrictions regarding the possibility of choosing a public school other than the one to which a child is assigned. For example, Iceland, Japan, Norway, Poland, Switzerland, the United States and the partner countries Brazil and Israel restricted choice

of another public school to a local or regional area. About two-thirds of OECD countries reported that families had to apply in order to enrol their child in a public school other than the one to which the child is assigned. In 21 out of 30 OECD countries, access to another public school depended on the places available (Table D5.1).

Criteria used by public and private schools when assigning and selecting students

The principal criterion used by 25 out of 30 OECD countries for assigning public schools, at both the primary and lower secondary levels, is geographic location, that is, the location of the family's residence within the municipality of the school and the proximity of the residence to the school. Specialisation or examinations are also used to assign public schools in the Czech Republic, the Slovak Republic and the partner countries Estonia and Israel at the primary and lower secondary levels, and in England, France, Germany, Mexico, the Netherlands and Switzerland at the lower secondary level. Public schools establish selective admission criteria in only 12 out of 30 OECD countries at the primary level and in 17 out of 30 at the lower secondary level (Table D5.5, available on line).

In contrast, independent private schools report the most flexibility in establishing admission criteria at both the primary (16 out of 19 OECD countries) and lower secondary levels (16 out of 18 OECD countries). Independent private schools use academic criteria, religion and gender as a basis for admission in over 70% of OECD countries for which data are available at the primary level and in over 80% at the lower secondary level. The extent to which government-dependent private schools at the primary (16 out of 22 OECD countries) and lower secondary levels (18 out of 23) establish selective admission criteria place them between public and independent private schools.

School choice in the public sector

Since 1985, progress has been made in creating opportunities for school choice at both the primary and lower secondary levels of public education. Restrictions on the choice of public schools have been lessened, and new autonomous public schools offer parents a greater choice of public schools in close to a dozen countries. Table D5.6 indicates that opportunities for school choice have been expanded since 1985 in 17 out of 30 OECD countries at the primary level and in 18 out of 30 at the lower secondary level. The reforms also include new funding mechanisms that promote school choice in England, Finland, Hungary, Italy, Luxembourg (lower secondary), Poland, Portugal (lower secondary), the Slovak Republic, Sweden, the United States and the partner countries Estonia and Israel (see Table D5.6, available on line).

Government-dependent private schools and their role in providing compulsory education at the primary and lower secondary levels

Government-dependent private schools are permitted to provide compulsory education in 23 out of 30 OECD countries at the primary level and in 24 out of 30 at the lower secondary level. In addition, OECD countries report that school choice has expanded since 1985 among government-dependent private schools at the primary (11 out of 23 OECD countries) and lower secondary levels (12 out of 24). In general, the results reported in Table D5.7 (available on line) show that restrictions on school choice have weakened, that reforms have created additional government-dependent private schools which offer new options for parents' choice of schools

for their children, and that government-dependent private schools have greater autonomy for participating in school choice. New funding mechanisms in support of school choice have also been created in the Czech Republic, England, Finland, Hungary, Poland, the Slovak Republic, Sweden and the partner countries Israel and Slovenia.

Independent private schools and their role in providing compulsory education at the primary and lower secondary levels

Except for the Czech Republic, Finland, Korea (lower secondary level), the Slovak Republic and Sweden, all other OECD countries report that independent private schools are permitted to operate and provide compulsory education at the primary (24 out of 30 OECD countries) and lower secondary levels (23 out of 30). In Belgium, although independent private schools are free to arrange education, they do not have permission to hand out legitimate diplomas – students have to pass tests that are organised by the belgian authority to obtain legitimate diplomas. OECD countries report that school choice has expanded since 1985 among independent private schools at the primary (5 out of 22 OECD countries) and lower secondary level (6 out of 21) (see Table D5.8, available on line).

Homeschooling as a legal means of providing compulsory education at the primary and lower secondary levels

Homeschooling is a legal means of providing compulsory education in 24 out of 30 OECD countries at the primary level and in 22 out of 30 at the lower secondary level. It is not permitted in the Czech Republic (lower secondary level), Germany, Greece, Japan, Korea, Mexico, the Slovak Republic (lower secondary level), Spain and the partner country Brazil.

In general, most countries that permitted homeschooling reported that: *i)* families are not permitted to enrol their child(ren) in a government-sponsored school part-time and provide the remaining education in the home; *ii)* opportunities for families to homeschool their child(ren) have not been expanded by legislation since 1985; *iii)* reforms have not reduced restrictions on homeschooling; *iv)* reforms have not included new funding mechanisms that promote homeschooling; and *v)* public funds are only used to support homeschooling in four countries (Hungary, New Zealand, the Slovak Republic [primary level] and the partner country Estonia) (see Table D5.9, available on line).

Financial incentives and disincentives for school choice

Financial incentives are an important means of promoting school choice. Financial incentives such as publicly funded school vouchers/scholarships or tuition tax credits can help families choose a school other than the one assigned by helping to cover the cost of tuition.

Generally speaking, only around one-third of countries reported that publicly funded school vouchers or scholarships were available to help families choose a government-dependent school and less than one-fifth reported they were available to help families choose an independent private school. Around three-quarters of the OECD countries reporting vouchers or scholarships indicated that these are intended for students from a lower socio-economic background. Vouchers or scholarships were more prevalent at the lower secondary than at the primary level (Table D5.3 and Table D5.12, available on line).

Four countries (Germany, Korea [lower secondary level], Luxembourg and Portugal) reported having a tuition tax credit for parents who choose to enrol a child in a government-dependent private school. Nine countries (Germany, Italy, Korea [primary level], Luxembourg, Portugal, Scotland, Spain and the partner countries Brazil and Estonia) reported tuition tax credits to help families who choose independent private schools. In New Zealand, tax rebates are available for donations to government-dependent and independent private schools. Luxembourg reported that tuition tax credits to help families who choose to homeschool their child(ren) are possible under special conditions (Table D5.3).

Schools that are permitted to require fees are less attractive, especially for families with lower incomes. While only 3 countries (Belgium [Flemish Community], Italy and the partner country Israel) reported obligatory contributions/fees for public schools, 15 reported that government-dependent private schools were permitted to charge fees (13 OECD countries and 2 partner countries), and 23 reported that independent private schools were permitted to do so (20 OECD countries and 3 partner countries). Although the survey did not address the level of obligatory fees, the amount typically depends on the volume of public resources that each school receives.

In terms of voluntary contributions, 23 out of 30 OECD countries reported that public schools were permitted to receive voluntary contributions. In Chile, Germany, Greece, Iceland, Japan, Luxembourg and Switzerland, public schools do not receive voluntary financial contributions. This compares with all government-dependent private schools and independent private schools. All partner country schools were permitted to receive voluntary contributions. Additional information on household expenditure on educational institutions can be found in Indicator B3.

For school choice to be effective, the public monies which schools receive should be closely linked to the number of students enrolled. Funding that follows students when families choose to move their child provides a market signal. Thirteen out of twenty-nine OECD countries reported that money follows students who choose among public schools. Public money provided to government-dependent private schools and independent private schools followed students in 11 out of 23 and 7 out of 13 OECD countries, respectively.

Although public funding did not always immediately follow a student in the event of a transfer to another school, 14 out of 30 OECD countries reported that adjustments in funding can be made over time when students choose to enter or leave a public school. In Mexico, Portugal and the partner country Slovenia, funding for public schools neither followed students nor were adjusted over time. Delayed adjustments in funding were also common when students entered or left government-dependent private schools (11 out of 23 OECD countries made delayed payments). Only France, Luxembourg, New Zealand and the partner country Israel reported delayed funding adjustments for independent private schools.

For more information and specific country data, see Table D5.3 and Tables D5.12 and D5.13 available on line.

Government regulations for different types of educational institutions

True school choice assumes that schools differ and that parents can therefore make meaningful choices on the basis of school profiles or pedagogical practices. If all schools are identical, or very similar, choice is less attractive and less meaningful. More heavily regulated schools are

assumed to be more similar, with the result that the nature and scope of regulations influence the amount and significance of school choice. Table D5.4 gives country-specific responses on regulations that apply to public schools, government-dependent private schools, independent private schools and homeschooling.

Standard or partially standardised curriculum required. At the lower secondary level 93% of OECD countries reported a standard or partially standardised curriculum in public schools. This compares with 91% of OECD countries for government-dependent private schools, 59% for independent private schools, and 61% for OECD countries that permit homeschooling. The picture is similar at the primary level.

Mandatory national examination required. Public schools at the lower secondary level had mandatory national exams in 36% of OECD countries. This was also the case for government-dependent private schools in 32% of OECD countries and for independent private schools in 30%. Only 18% reported the existence of mandatory national exams for families that homeschool. Such exams are less prevalent at the primary level, with mandatory national exams in 14% of OECD countries for public schools, 10% for government-dependent private schools, 13% for independent private schools and 5% for families that homeschool.

National assessment requirements. The responses summarised in Table D5.4 indicate that two-thirds of OECD countries require mandatory assessment at public and government-dependent private primary schools, while more than half of OECD countries require mandatory assessment for public and government-dependent private lower secondary schools. Mandatory assessment is less often required for homeschooled pupils at both the primary and lower secondary levels (less than two-tens of OECD countries). Half of OECD countries report that mandatory assessment is required in independent schools at primary level, but less than half require this at the lower secondary level.

Can schools promote religion or religious practices? One distinguishing characteristic of schools which motivates school choice is the religious profile. Public schools were allowed to promote religion or religious practices at the lower secondary level in 46% of OECD countries, but 83% of government-dependent private schools could do so. At the lower secondary level, independent private schools and families that homeschool were also free to promote religion in 95% and 83% of OECD countries respectively. The picture is similar at the primary level.

Employment and certification standards. All countries but Chile (at the primary level) reported having employment and certification standards for personnel working in public schools, and all but Denmark reported that this applied to government-dependent private schools. These standards were less often obligatory for independent private schools. For these, 16 out of 21 OECD countries at the primary level and 14 out of 20 OECD countries at the lower secondary level reported applying such standards. Of the countries that permitted homeschooling, the Czech Republic, the Slovak Republic, Switzerland and the partner country Estonia also had standards for personnel who instructed students in the home.

Restrictions on staffing and class size. There were restrictions on staffing and class size in public schools in around 70% of OECD countries. This compares with around half of the government-dependent private schools and around a third of the independent private schools. Only Switzerland and the partner country Estonia reported such restrictions for homeschooling. The restrictions were slightly more prevalent for primary than for lower secondary schools.

Use of public resources for transporting students attending diverse categories of schools

Public resources may be attributed to schools for transporting students. This seems to be the case primarily for public schools and government-dependent private schools. At the primary and lower secondary levels, all OECD countries reported that public resources are used to transport students to public schools, and around three out of four reported that they are for government-dependent private schools. By and large, school choice – all school types and levels – has not been promoted through changes in transport practices (see Table D5.10, available on line).

Responsibility for informing parents about school choices available to them

It is not principally the government's responsibility to inform parents about the choices available to them. At the primary level, only 19 out of 30 OECD countries reported that informing parents is the responsibility of the government, and in 7 of these countries, the information is limited to public forms of school choice. At the lower secondary level, 20 out of 30 reported this to be the case and in 6 of these countries, the information is limited to public forms of school choice. Different levels of government may be responsible for informing parents, but most often this responsibility falls to local authorities or government and to the school or school board. At both levels, only Chile, England, Hungary, New Zealand and the United States reported that performance data are included in the information presented to parents (see Table D5.11, available on line).

Definitions and methodologies

Data are from the 2009 OECD-INES Survey on School Choice and Parent Voice and refer to the school year 2007-08. Data on enrolments are based on the UOE data collection on educational systems administered annually by the OECD and refer to the school year 2007-08.

Educational institutions are classified as either ***public*** or ***private.*** Public institutions and the three forms of private institutions are defined as follows:

- **Public institution**. An institution is classified as ***public*** if it is: *i)* controlled and managed directly by a public education authority or agency; or *ii)* controlled and managed either by a government agency directly or by a governing body (council, committee, etc.), most of whose members are either appointed by a public authority or elected by public franchise.

  In a few countries, new forms of public schools have been created during the last 25 years as a means to promote school choice. Even though these schools may have greater autonomy, if they are publicly owned, steered and financed, they are considered public institutions.

- **Private institution**. An institution is classified as ***private*** if: *i)* it is controlled and managed by a non-governmental organisation (*e.g.* a church, trade union or business enterprise); or *ii)* most of the members of its governing board are not selected by a public agency.

  – A ***government-dependent private institution*** is an institution that receives more than 50% of its core funding from government agencies or one whose teaching personnel are paid by a government agency. The term "government-dependent" refers only to the degree of a private institution's dependence on funding from government sources; it does not refer to the degree of government direction or regulation.

– An ***independent private institution*** is an institution that receives less than 50% of its core funding from government agencies and whose teaching personnel are not paid by a government agency. The term "independent" refers only to the degree of the institution's dependence on funding from government sources; it does not refer to the degree of government direction or regulation.

– A third form of private schooling is ***homeschooling.*** Some countries allow homeschooling when it conforms to established regulations. Homeschooling involves the education of children at home, typically by parents but sometimes by tutors, which meets compulsory school requirements. Around the world, it is common for parents to provide supplemental instruction or tutoring at home. This is not homeschooling if it supplements or supports compulsory education delivered at a school. Where permitted, homeschooling replaces compulsory education delivered at a school and it qualifies students for formal schooling at higher levels.

Related terms

A ***school voucher*** (often referred to as a scholarship) is a certificate issued by the government which parents can use to pay for the education of their child at a school of their choice, rather than the public school to which the child was assigned. In most instances, parents do not actually receive a certificate or redeemable check. Instead, schools verify that they are serving qualified students and the government provides funding to the school on the basis of the number of qualified students enrolled. Qualified students are the subgroup of students targeted by many voucher or scholarship programmes; typically these include ethnic minorities or students from low-income families.

A ***tuition tax credit*** is a regulation that allows parents to deduct educational expenses, including private school tuition, from their taxes. This results in governments paying the costs for private schools through foregone revenues.

Further references

Hirschman, A.O. (1970), *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*, Harvard University Press, Cambridge, Massachusetts.

Belfield, C.R., & Levin, H.M. (2005), *Privatizing Educational Choice: Consequences for Parents, Schools, and Public Policy*, Paradigm Publishers, Boulder, Colorado.

The following additional materials relevant to this indicator is available on line at:

StatLink http://dx.doi.org/10.1787/888932310548

- ***Table D5.5. Criteria used by public and private schools when assigning and selecting students (2008)***
- ***Table D5.6. Expansion of school choice within the public school sector over the past 25 years (2008)***
- ***Table D5.7. Government-dependent private schools and their role in providing compulsory education at the primary and lower secondary level (2008)***
- ***Table D5.8. Independent private schools and their role in providing compulsory education at the primary and lower secondary level (2008)***
- ***Table D5.9. Homeschooling as a legal means of providing compulsory education at the primary and lower secondary level (2008)***
- ***Table D5.10. Use of public resources for transporting students (2008)***
- ***Table D5.11. Responsibility for informing parents about school choices available to them (2008)***
- ***Table D5.12. Availability of school vouchers (or scholarships) (2008)***
- ***Table D5.13. Extent to which public funding follows students when they leave for another public or private school (2008)***

Table D5.1.

Freedom for parents to choose a public school for their child(ren) (2008)

By level of education

		Primary							Lower secondary						
		Initial assignment based on geographical area schools	Families are given a general right to enrol in any traditional public school they wish	Choice of other public schools is restricted to the district or municipality	Choice of other public schools is restricted by region	Families must apply to enrol in a public school other than the one assigned to their child(ren)	There is free choice of other public schools if there are places available	Others restrictions or conditions	Initial assignment based on geographical area schools	Families are given a general right to enrol in any traditional public school they wish	Choice of other public schools is restricted to the district or municipality	Choice of other public schools is restricted by region	Families must apply to enrol in a public school other than the one assigned to their child(ren)	There is free choice of other public schools if there are places available	Others restrictions or conditions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD countries	Austria	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
	Belgium (Fl.)	No	Yes	No	No	No	Yes	No	No	Yes	No	No	No	Yes	No
	Belgium (Fr.)	No	Yes	No	No	No	Yes	No	No	Yes	No	No	No	Yes	No
	Chile	No	Yes	No	No	No	Yes	No	No	Yes	No	No	No	No	No
	Czech Republic	Yes	Yes	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
	Denmark	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	England	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Finland	Yes	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No	Yes
	France	Yes	No	No	No	No	No	No	Yes	No	No	No	Yes	Yes	No
	Germany	Yes	No	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Yes
	Greece	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No	No
	Hungary	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Iceland	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No
	Ireland	Yes	No	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Italy	Yes	Yes	No	No	Yes	Yes	m	Yes	Yes	No	No	Yes	Yes	m
	Japan	Yes	No	No	Yes	Yes	No	No	Yes	No	No	Yes	Yes	No	No
	Korea	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No	No
	Luxembourg	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Mexico	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Netherlands	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	Yes
	New Zealand	No	Yes	No	No	No	Yes	No	No	Yes	No	No	Yes	Yes	No
	Norway	Yes	No	Yes	Yes	Yes	No	m	Yes	No	Yes	Yes	Yes	No	m
	Poland	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
	Portugal	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Scotland	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
	Slovak Republic	Yes	Yes	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	No
	Spain	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Sweden	Yes	No	No	No	No	Yes	No	Yes	No	No	No	No	Yes	No
	Switzerland	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No
	United States	Yes	m	Yes	Yes	Yes	No	Yes	Yes	m	Yes	Yes	Yes	No	Yes
Partner countries	Brazil	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Estonia	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No
	Israel	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No
	Slovenia	Yes	No	No	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	No

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310548

Table D5.2.

Public and private schools and their role in providing compulsory education (2008)

By level of education

		Public schools			Government-dependent private schools			Independent private schools			Homeschooling		
		Legally permitted to operate and provide compulsory education		Percentage of all public and private school students	Legally permitted to operate and provide compulsory education		Percentage of all public and private school students	Legally permitted to operate and provide compulsory education		Percentage of all public and private school students	Permitted as a legal means of providing compulsory education		Percentage of all public and private school students
		Primary	Lower secondary	Primary and lower secondary	Primary	Lower secondary	Primary and lower secondary	Primary	Lower secondary	Primary and lower secondary	Primary	Lower secondary	Primary and lower secondary
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Austria[1]	Yes	Yes	92.8	Yes	Yes	7.1	Yes	Yes	x(6)	Yes	Yes	0.12
	Belgium[2]	Yes	Yes	44.0	Yes	Yes	55.9	No	No	m	Yes	Yes	0.06
	Chile	Yes	Yes	44.8	Yes	Yes	48.9	Yes	Yes	6.3	Yes	Yes	m
	Czech Republic[1]	Yes	Yes	98.2	Yes	Yes	1.8	No	No	a	Yes	No	n
	Denmark[1]	Yes	Yes	82.1	Yes	Yes	17.4	Yes	Yes	0.4	Yes	Yes	0.03
	Finland	Yes	Yes	97.5	Yes	Yes	2.4	No	No	a	Yes	Yes	0.07
	France	Yes	Yes	82.0	Yes	Yes	17.5	Yes	Yes	0.4	Yes	Yes	n
	Germany	Yes	Yes	93.4	Yes	Yes	6.6	Yes	Yes	x(6)	No	No	a
	Greece	Yes	Yes	93.4	No	No	a	Yes	Yes	6.6	No	No	a
	Hungary	Yes	Yes	91.1	Yes	Yes	8.3	Yes	Yes	n	Yes	Yes	0.66
	Iceland	Yes	Yes	98.5	Yes	Yes	1.5	Yes	Yes	n	Yes	Yes	x(3)
	Ireland	Yes	Yes	99.5	No	No	a	Yes	Yes	0.4	Yes	Yes	0.06
	Italy	Yes	Yes	94.3	No	No	a	Yes	Yes	5.7	Yes	Yes	m
	Japan	Yes	Yes	96.9	No	No	a	Yes	Yes	3.1	No	No	a
	Korea	Yes	Yes	92.5	No	Yes	6.6	Yes	No	0.9	No	No	a
	Luxembourg	Yes	Yes	88.0	Yes	Yes	4.3	Yes	Yes	7.7	Yes	Yes	m
	Mexico	Yes	Yes	89.9	No	No	a	Yes	Yes	10.1	No	No	a
	Netherlands[3]	Yes	Yes	30.0	Yes	Yes	70.0	Yes	Yes	n	Yes	Yes	n
	New Zealand	Yes	Yes	84.8	Yes	Yes	10.8	Yes	Yes	3.4	Yes	Yes	0.96
	Norway	Yes	Yes	97.4	Yes	Yes	2.5	Yes	Yes	x(6)	Yes	Yes	0.06
	Poland	Yes	Yes	97.2	Yes	Yes	0.8	Yes	Yes	2.0	Yes	Yes	0.06
	Portugal	Yes	Yes	86.2	Yes	Yes	3.4	Yes	Yes	10.4	Yes	Yes	0.01
	Slovak Republic	Yes	Yes	94.0	Yes	Yes	6.0	No	No	n	Yes	No	m
	Spain	Yes	Yes	68.3	Yes	Yes	28.3	Yes	Yes	3.4	No	No	a
	Sweden	Yes	Yes	91.8	Yes	Yes	8.1	No	No	n	Yes	Yes	0.01
	Switzerland	Yes	Yes	94.5	Yes	Yes	1.8	Yes	Yes	3.6	Yes	Yes	m
	United Kingdom[1]	Yes	Yes	90.7	Yes	Yes	4.1	Yes	Yes	4.8	Yes	Yes	0.50
	United States[1]	Yes	Yes	87.8	No	No	a	Yes	Yes	9.1	Yes	Yes	3.10
	OECD average			*85.8*			*14.3*			*3.6*			*0.36*
	EU19 average			*89.5*			*16.0*			*3.2*			*0.15*
Partner countries	Brazil	Yes	Yes	89.3	No	No	a	Yes	Yes	10.7	No	No	a
	Estonia	Yes	Yes	97.3	No	No	a	Yes	Yes	1.9	Yes	Yes	0.86
	Israel	Yes	Yes	100.0	Yes	Yes	x(3)	Yes	Yes	n	Yes	Yes	0.04
	Slovenia	Yes	Yes	99.8	Yes	Yes	0.2	Yes	Yes	n	Yes	Yes	0.05

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

1. Estimated for homeschooling.
2. Independent private schools are free to arrange education but have no permission to hand out legitimate diplomas.
3. Estimated for reference year 2006.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310548

D5

Table D5.3.

Financial incentives and disincentives for school choice (2008)

By level of education and category of school

		School vouchers (also referred to as scholarships) are available and applicable						Tuition tax credits are available to help families offset costs of private schooling						Compulsory and/or voluntary financial contributions from parents are permitted						Extent to which public funding follows students when they leave for another public or private school					
		Primary			Lower secondary			Primary			Lower secondary			Obligatory financial contributions from parents			Voluntary financial contributions from parents			Funding follows the student			Funding does not directly follow the student, although adjustments can be made over time		
		Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Government-dependent private schools	Independent private schools	Homeschooling	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
OECD countries	Austria	No	No	No	No	No	No	No	No	No	No	No	No	No	No	m	Yes	Yes	m	No	No	a	Yes	Yes	a
	Belgium (Fl.)	No	No	No	Yes	Yes	No	No	m	No	No	m	No	Yes	Yes	m	Yes	Yes	m	No	No	a	Yes	Yes	a
	Belgium (Fr.)	No	No	No	Yes	Yes	No	No	m	No	No	m	No	No	No	m	Yes	Yes	m	No	No	a	Yes	Yes	a
	Chile	Yes	Yes	No	Yes	Yes	m	No	No	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	a	No	No	a
	Czech Republic	No	No	a	No	No	a	No	a	No	No	a	a	No	Yes	a	Yes	Yes	a	Yes	Yes	a	No	No	a
	Denmark	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	a	Yes	Yes	a
	England	a	a	No	a	a	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	a	Yes	Yes	a
	Finland	a	a	a	a	a	a	No	a	No	No	a	No	No	Yes	a	Yes	Yes	a	Yes	Yes	a	No	No	a
	France	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
	Germany	Yes	Yes	m	Yes	Yes	m	Yes	Yes	a	Yes	Yes	a	No	Yes	Yes	No	Yes	Yes	No	No	m	Yes	Yes	m
	Greece	No	a	No	No	a	No	a	No	a	a	No	a	No	a	Yes	No	a	Yes	No	a	a	Yes	a	a
	Hungary	No	No	No	No	No	No	m	m	m	m	m	m	No	Yes	m	Yes	Yes	m	Yes	Yes	m	No	No	m
	Iceland	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No
	Ireland	No	a	No	No	a	No	a	No	No	a	m	m	No	a	Yes	Yes	a	m	Yes	a	No	No	a	No
	Italy	Yes	a	No	Yes	a	No	a	Yes	m	a	Yes	m	Yes	a	Yes	Yes	a	Yes	Yes	a	Yes	No	a	No
	Japan	No	a	No	No	a	No	a	No	a	a	No	a	No	a	Yes	No	a	Yes	No	a	No	Yes	a	No
	Korea	No	a	No	No	No	a	a	Yes	a	Yes	a	a	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No	No
	Luxembourg	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Yes	Yes
	Mexico	a	a	No	a	a	No	a	No	a	a	No	a	No	a	Yes	Yes	a	Yes	No	a	a	No	a	a
	Netherlands	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	m	Yes	Yes	Yes	No	No	No
	New Zealand	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
	Norway	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	a	Yes	Yes	a
	Poland	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
	Portugal	a	a	a	a	a	a	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No
	Scotland	No	No	No	No	No	No	No	Yes	No	No	Yes	No	No	m	Yes	Yes	m	Yes	Yes	m	Yes	No	m	No
	Slovak Republic	No	No	a	Yes	No	a	No	a	No	No	a	a	No	Yes	a	Yes	Yes	a	Yes	Yes	a	No	No	a
	Spain	Yes	Yes	a	Yes	Yes	a	No	Yes	a	No	Yes	a	No	No	Yes	Yes	Yes	Yes	No	No	a	Yes	Yes	a
	Sweden	No	No	a	No	No	a	No	a	No	No	a	No	No	No	a	Yes	Yes	a	Yes	Yes	a	No	No	a
	Switzerland	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes	Yes	No	No	a	Yes	Yes	a
	United States	a	a	Yes	a	a	Yes	a	Yes	No	a	Yes	No	No	a	Yes	Yes	a	Yes	m	a	Yes	No	a	No
Partner countries	Brazil	a	a	a	a	a	a	a	Yes	a	a	Yes	a	No	a	Yes	Yes	a	Yes	Yes	a	a	No	a	a
	Estonia	Yes	a	Yes	Yes	a	Yes	a	Yes	m	a	Yes	m	No	a	No	Yes	a	Yes	Yes	a	Yes	No	a	No
	Israel	a	a	a	a	a	a	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
	Slovenia	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310548

Table D5.4.

Government regulations that apply to schools at the primary and lower secondary levels (2008)

By category of school

		Primary																					
		A standard curriculum or partially standardised curriculum is required				Mandatory national examination is required				Mandatory national assessment is required				Schools can promote religion or religious practices				Personnel must meet employment and certification standards				There are restrictions on staffing and class size			
		Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
OECD countries	Austria	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
	Belgium (Fl.)	Yes	Yes	m	a	No	No	m	a	No	No	m	a	No	No	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Belgium (Fr.)	Yes	Yes	m	Yes	No	No	m	No	Yes	Yes	m	a	No	Yes	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Chile	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	No	No	No
	Czech Republic	Yes	Yes	a	Yes	No	No	a	No	No	No	a	No	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	No
	Denmark	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No
	England	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
	Finland	Yes	Yes	a	Yes	a	a	a	a	Yes	Yes	a	No	Yes	Yes	a	Yes	Yes	Yes	a	No	No	No	a	No
	France	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	No	No	No	Yes	a	Yes	Yes	No	No	No	No	No	a
	Germany	Yes	Yes	m	a	No	No	m	a	Yes	Yes	m	a	No	Yes	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Greece	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a	m	a	m	a	Yes	a	Yes	a	Yes	a	Yes	a
	Hungary	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes	m	a	Yes	Yes	m	a	Yes	No	m	a
	Iceland	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
	Ireland	Yes	a	Yes	No	No	a	No	No	No	a	No	No	Yes	a	Yes	a	Yes	a	No	a	Yes	a	No	a
	Italy	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a
	Japan	Yes	a	Yes	a	No	a	No	a	No	a	No	a	No	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a
	Korea	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	Yes	a	Yes	a
	Luxembourg	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	Mexico	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	No	a
	Netherlands	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	a	Yes	Yes	Yes	a	No	No	No	No
	New Zealand	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
	Norway	Yes	No	No	Yes	No	No	No	No	Yes	Yes	Yes	a	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	Portugal	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	m	a
	Scotland	m	m	No	No	m	m	No	No	m	m	No	No	m	m	Yes	Yes	Yes	m	Yes	No	Yes	m	No	No
	Slovak Republic	Yes	Yes	a	Yes	No	No	a	No	No	No	a	No	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	No	a	a
	Spain	Yes	Yes	Yes	a	No	No	No	a	Yes	Yes	Yes	a	No	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a
	Sweden	Yes	Yes	a	Yes	No	No	a	No	Yes	Yes	a	No	No	No	a	No	Yes	Yes	a	No	No	No	a	No
	Switzerland	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	United States	No	a	No	No	No	a	No	No	No	a	No	No	No	a	Yes	Yes	Yes	a	m	No	Yes	a	No	No
Partner countries	Brazil	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	No	a	No	a
	Estonia	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes
	Israel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m	m	Yes	Yes	Yes	No	m	m	m	m	Yes	Yes	m	m
	Slovenia	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	a	Yes	Yes	a	a	Yes	Yes	a	a

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310548

Table D5.4. *(continued)*

Government regulations that apply to schools at the primary and lower secondary level (2008)

By category of school

		Lower secondary																					
		A standard curriculum or partially standardised curriculum is required				Mandatory national examination is required				Mandatory national assessment is required				Schools can promote religion or religious practices				Personnel must meet employment and certification standards				There are restrictions on staffing and class size			
		Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling	Public schools	Government-dependent private schools	Independent private schools	Homeschooling
		(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)
OECD countries	Austria	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No
	Belgium (Fl.)	Yes	Yes	m	a	No	No	m	a	No	No	m	a	No	No	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Belgium (Fr.)	Yes	Yes	m	a	No	No	No	No	Yes	Yes	a	a	No	Yes	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Chile	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
	Czech Republic	Yes	Yes	a	a	No	No	a	a	No	No	a	a	Yes	Yes	a	a	Yes	Yes	a	a	m	m	a	a
	Denmark	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No
	England	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
	Finland	Yes	Yes	a	Yes	a	a	a	a	Yes	Yes	a	No	Yes	Yes	a	Yes	Yes	Yes	a	No	No	No	a	No
	France	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes	a	Yes	Yes	No	No	No	No	No	a
	Germany	Yes	Yes	m	a	Yes	Yes	m	a	Yes	Yes	m	a	No	Yes	m	a	Yes	Yes	m	a	Yes	Yes	m	a
	Greece	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a	m	a	m	a	Yes	a	Yes	a	Yes	a	Yes	a
	Hungary	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes	m	a	Yes	Yes	m	a	Yes	No	m	a
	Iceland	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
	Ireland	Yes	a	Yes	a	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	Yes	a	No	a	Yes	a	No	a
	Italy	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a
	Japan	Yes	a	Yes	a	No	a	No	a	No	a	No	a	No	a	Yes	a	Yes	a	Yes	a	Yes	a	Yes	a
	Korea	Yes	Yes	a	a	No	No	a	a	Yes	Yes	a	a	No	No	a	a	Yes	Yes	a	a	Yes	Yes	a	a
	Luxembourg	Yes	Yes	No	Yes	Yes	Yes	No	a	Yes	Yes	No	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	No	No	a
	Mexico	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	No	a
	Netherlands	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	a	Yes	Yes	Yes	a	No	No	No	a
	New Zealand	Yes	Yes	No	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No	No	No	No	No
	Norway	Yes	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a	Yes	Yes	Yes	No	Yes	Yes	Yes	No
	Portugal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	m	a
	Scotland	m	m	No	No	m	m	No	No	m	m	No	No	m	m	Yes	Yes	Yes	m	Yes	No	Yes	m	No	No
	Slovak Republic	Yes	Yes	a	a	No	No	a	a	Yes	Yes	a	a	Yes	Yes	a	a	Yes	Yes	a	a	Yes	No	a	a
	Spain	Yes	Yes	Yes	a	No	No	No	a	Yes	Yes	Yes	a	No	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a
	Sweden	Yes	Yes	a	Yes	No	No	a	No	Yes	Yes	a	No	No	No	a	No	Yes	Yes	a	No	No	No	a	No
	Switzerland	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a
	United States	No	a	No	No	No	a	No	No	No	a	No	No	No	a	Yes	Yes	Yes	a	m	No	Yes	a	No	No
Partner countries	Brazil	Yes	a	Yes	a	No	a	No	a	Yes	a	Yes	a	No	a	Yes	a	Yes	a	Yes	a	No	a	No	a
	Estonia	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes	Yes	a	Yes	Yes
	Israel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m	m	Yes	Yes	Yes	a	m	m	m	m	Yes	Yes	m	m
	Slovenia	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	a	Yes	Yes	a	a	Yes	Yes	a	a

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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INDICATOR D6

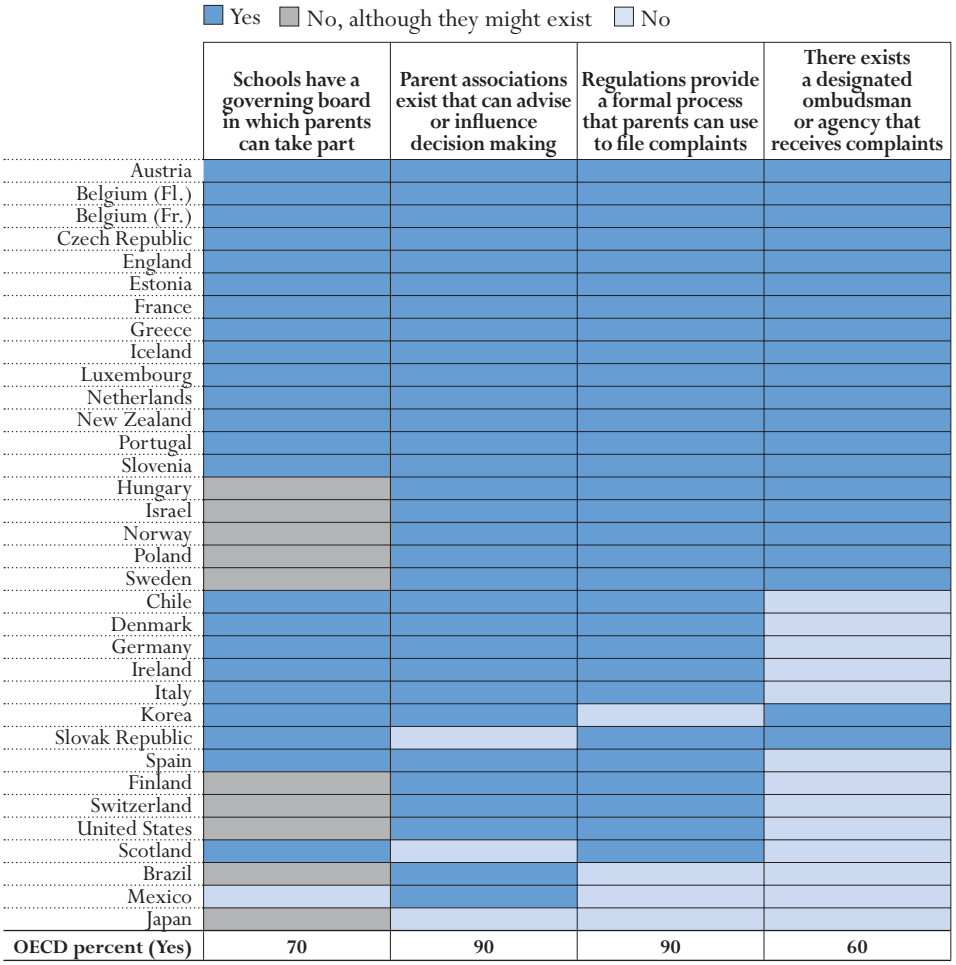
HOW CAN PARENTS INFLUENCE THE EDUCATION OF THEIR CHILDREN?

This indicator considers whether parents have opportunities to influence the education of children in schools and, if so, how they may do so. It focuses on three formal types of parent voice: *i)* participation in governance, *ii)* involvement in advising (non-governance), and *iii)* complaints or grievances. Although there have been earlier studies that have examined some specific forms of parent involvement, this is the first international study to look at the formal structures and regulations related to parent voice.

Key results

Chart D6.1. Opportunities for parents to exercise voice at the school level within the public school sector (2008)

Most OECD countries report that parents have a range of opportunities for participating in the governance of public schools (70%) or in associations that advise public schools (90%). Most (90%) also report that regulations provide for a formal process by which parents can file complaints, and 60% report the existence of a designated ombudsman or agency for receiving complaints and appeals. Informally, parents may also complain or attempt to appeal decisions made by public schools.



	Schools have a governing board in which parents can take part	Parent associations exist that can advise or influence decision making	Regulations provide a formal process that parents can use to file complaints	There exists a designated ombudsman or agency that receives complaints
Austria	Yes	Yes	Yes	Yes
Belgium (Fl.)	Yes	Yes	Yes	Yes
Belgium (Fr.)	Yes	Yes	Yes	Yes
Czech Republic	Yes	Yes	Yes	Yes
England	Yes	Yes	Yes	Yes
Estonia	Yes	Yes	Yes	Yes
France	Yes	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes
Iceland	Yes	Yes	Yes	Yes
Luxembourg	Yes	Yes	Yes	Yes
Netherlands	Yes	Yes	Yes	Yes
New Zealand	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes
Slovenia	Yes	Yes	Yes	Yes
Hungary	No, although they might exist	Yes	Yes	Yes
Israel	No, although they might exist	Yes	Yes	Yes
Norway	No, although they might exist	Yes	Yes	Yes
Poland	No, although they might exist	Yes	Yes	Yes
Sweden	No, although they might exist	Yes	Yes	Yes
Chile	Yes	Yes	Yes	No
Denmark	Yes	Yes	Yes	No
Germany	Yes	Yes	Yes	No
Ireland	Yes	Yes	Yes	No
Italy	Yes	Yes	Yes	No
Korea	Yes	Yes	No	Yes
Slovak Republic	Yes	No	Yes	Yes
Spain	Yes	Yes	Yes	No
Finland	No, although they might exist	Yes	Yes	No
Switzerland	No, although they might exist	Yes	Yes	No
United States	No, although they might exist	Yes	Yes	No
Scotland	Yes	No	Yes	No
Brazil	No, although they might exist	Yes	No	No
Mexico	No	Yes	No	No
Japan	No, although they might exist	No	No	No
OECD percent (Yes)	**70**	**90**	**90**	**60**

Countries are ranked in descending order of the opportunities for parents to exercise voice at the school level within the public school sector.

Source: OECD. Tables D6.1, D6.2 and D6.3. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

StatLink http://dx.doi.org/10.1787/888932310567

Other highlights of this indicator

- There are few differences among countries in terms of opportunities for parent voice at the primary and the lower secondary level.
- Formal provisions for parent voice are most prevalent in public schools and government-dependent private schools. Independent private schools tend to have fewer provisions for parent voice.
- In terms of parents' involvement in the governance of public schools, 18 out of 30 OECD countries require parent participation on school boards. A similar proportion of OECD countries (13 out of 23) require parent participation on school boards for government-dependent private schools. This however drops to less than a third of OECD countries (6 out of 19) for independent schools. In addition, a number of countries have governing boards with optional parent involvement.
- Parent associations have a formal role in providing advice, as the government is obliged to consult with them on major policy decisions in 10 out of 26 OECD countries. Parent associations play an informal role in advising the government in 24 out of 27 OECD countries. Only in England and Korea do parent associations play neither a formal nor an informal role in relation to the government. Parent associations are most common at the school and the national levels. They are less commonly reported at the local or regional levels.
- Regulations which provide parents with a formal process for filing complaints regarding public schools are reported in 27 out of 30 OECD countries (the exceptions being Japan, Korea and Mexico). A similar proportion have such regulations for government-dependent schools. Only 12 out of 20 OECD countries report a formal mechanism for filing complaints for independent private schools.
- Around two-thirds of OECD countries have an ombudsman or an agency to receive complaints related to public schools and government-dependent private schools. Such an arrangement applies to independent private schools in only one-third of countries (Greece, Iceland, Korea, New Zealand, Norway, Poland, Portugal and the partner countries Estonia and Israel).

D6

Policy context

"Voice" refers to opportunities for parents to influence or change the schools that educate their children. It is one of three options – exit, voice, loyalty – which Hirschman (1970) considered consumers to have in the face of a deteriorating quality of goods or services. In the context of schools, "exit" refers to school choice (see Indicator D5) and "loyalty" refers to a situation in which parents do not have exit or voice options, or choose not to exercise them.

School choice and parent voice are inextricably linked. When school choice is limited there is likely to be more parent voice. Similarly, when there are ample opportunities for "voice", parents are less likely to "exit" and choose another school for their children.

Both school choice and parent voice can draw attention to a decline in school quality. Exit can serve as a signal of dissatisfaction or decline, while voice can provide specific details about the nature of or reason for the perceived decline. The two may be less complementary in countries in which parents are not (yet) used to expressing their will or opinion by "exit" or "voice", basically because they were assumed to be loyal (for example, in the countries of the former communist block).

A review of the literature and information from teacher associations in a number of OECD member countries reveals that forms or mechanisms of parent voice may exist at various levels ranging from the school level to the national level. For this reason, a number of items parse out the levels at which parent voice can be formally exercised.

Evidence and explanations

What this indicator does and does not cover

This indicator attempts to capture formal types of parent voice that are either specified in regulations or recognised and measurable at the central or national level. It is, of course, common for parents to exercise voice in informal ways, especially by directly communicating with teachers and school administrators. Even when countries have similar regulations and similar mechanisms for parent voice, large differences are still likely to exist among countries in the extent to which parents make use of the formal mechanisms. Unfortunately, this indicator is not able to capture actual practice.

Parent involvement in governance

Parent participation on school governing boards of public schools is required in 18 out of 30 OECD countries (Table D6.1). The same is true for government-dependent private schools in 13 out of 23 OECD countries. Only seven countries (Denmark, Greece, Iceland, Italy, Korea, Luxembourg and the partner country Estonia) reported that this was required for independent private schools. In addition, Belgium (French Community), Luxembourg (primary level) and the Netherlands reported having governing boards with optional parent involvement for public schools. The same is true in Belgium (French Community), the Netherlands, Scotland and the Slovak Republic for government-dependent private schools. Finland, Hungary, Japan, Norway, Poland, Sweden, Switzerland, the United States and the partner countries Brazil and Israel reported that school governing boards are not required for public schools, although they may exist. For government-dependent private schools, this is also the case in Finland, France, Poland, Portugal, Sweden, Switzerland and the partner countries Israel and Slovenia. For independent private schools, it is also the case in 12 out of 19 OECD countries. Only Mexico reported that school governing boards did not exist.

Parent associations

Parent associations are common in all but a few countries and can play a number of roles. They are a means of advising or influencing education (Table D6.2). In 10 out of 26 OECD countries (Belgium [Flemish Community], Denmark, France, Hungary, Iceland, Ireland, Norway, Poland, Portugal and Spain), parent associations play a direct or formal role in providing advice, as the government is obliged to consult with them on major policy decisions. In 24 out of 27 OECD countries and in all partner countries, parent associations play an indirect or more informal role in advising government. Only in England and Korea do parent associations play neither a formal nor an informal role with regard to the government. In 15 out of 25 OECD countries, these associations also serve to inform parents about relevant developments in education.

Parent associations can represent and serve various types of educational institutions. The data suggest that differences among educational institutions (public or private) are relatively small. Except in public schools in Japan, Scotland and the Slovak Republic, government-dependent private schools in the Slovak Republic, and independent private schools in Austria and Denmark, parent associations exist in every public and private school in all OECD countries. Parent associations exist in homeschooling in nine OECD countries and one partner country.

Parent voice is considered to exist at four levels: national, state or regional, local/district, and school. With the exception of Luxembourg and the partner countries Estonia and Slovenia, parent associations for public schools are most commonly organised at the school level. The existence and distribution of parent associations for public and private schools are similar at the national, state or regional, and school level. Just over 70% of OECD countries reported parent associations for public and private schools operating at the national level, more than half reported that they also exist at the regional level and around 40% have them at the local level. There are some small differences, however, between the two types of private school at the local/district level. Government-dependent private schools have slightly fewer parent associations than independent private schools (in seven versus eight OECD countries) at the local/district level. It is likely that some parent associations at the local, regional, and national levels may represent and serve both public and private schools. The ten countries (the Czech Republic, England, Finland, France, Iceland, the Netherlands, Poland, Switzerland, the United States and the partner country Estonia) with parent associations for homeschooling all report that these are organised at the national level. France, Poland, Switzerland and the United States also reported parent associations for homeschooling at the state or regional level, and England, Poland and the United States reported associations at the local/district level.

Parent-teacher associations are less common than parent associations, although a number of countries reported having both (see Table D6.4, available on line). A total of eight OECD countries (the Czech Republic, England, Italy, Japan, New Zealand, Poland, Scotland and the United States) reported the existence of parent-teacher associations connected with public schools. For private schools, four countries with government-dependent private schools reported parent-teacher associations, and seven countries with independent private schools reported having parent-teacher associations. In the Czech Republic, England, Italy, Japan, New Zealand, Poland and the United States, parent-teacher associations exist in every type of school.

Formal processes and mechanisms that parent can use to file complaints or appeal decisions

Except for Japan, Korea, Mexico and the partner country Brazil, all countries reported having regulations that provided a formal process which parents can use to file complaints regarding public schools. Such regulations were just as common for government-dependent schools (21 out of 23 OECD countries). Only 12 out of 20 OECD countries reported a formal mechanism for filing complaints against independent private schools (Table D6.3).

An ombudsman or an agency to receive complaints related to public schools exists in 18 out of 30 OECD countries, compared to 15 out of 23 for government-dependent private schools. Such an arrangement exists for independent private schools only in Greece, Iceland, Korea, New Zealand, Norway, Poland, Portugal and in the partner countries Estonia and Israel. Table D6.3 contains the detailed results by country.

Appeals by parents against decisions by schools (i.e. school board or school administrator)

Most countries reported that parents were able to appeal decisions by public, government-dependent private and independent private schools. For public schools, in all countries but Denmark, Japan and Korea, parents could appeal decisions made by the school. Parents of students attending government-dependent private schools were able to appeal decisions by the school in 21 out of 23 OECD countries. The exceptions were Denmark and Korea. For independent private schools, 15 out of 19 OECD countries reported that parents were able to appeal decisions made by the school (see Table D6.5, available on line).

Parents can appeal decisions made by schools in several areas: decisions about special needs provisions, school fees and voluntary financial contributions, regulation of assessments and examinations, and disciplinary actions. The most commonly cited areas for appeals involved decisions made by schools about special needs provision and disciplinary action.

Appeals to overturn decisions made by schools can theoretically be made at multiple levels: the central government, the state government, the provincial/regional authorities or government, sub-regional or inter-municipal authorities or governments, and local authorities or government. In more than half of countries parents could appeal decisions made by schools to multiple levels of government. Table D6.5 (available on line) contains details regarding mechanism for appeals.

Definitions and methodologies

Data are from the 2009 OECD-INES Survey on School Choice and Parent Voice and refer to the school year 2007-08.

Governance as a form of parent voice occurs when parents serve on boards or councils with a direct role in making decisions about budgets, hiring and firing, curriculum, and school policies.

Advising (non-governance) as a form of parent voice occurs when parents serve on boards, councils, or associations and may thus influence school policies by expressing their wants, needs or desires to those with direct decision-making authority.

Complaint/grievance as a form of parent voice occurs when parents express their concerns about their children's education or school to a representative of the educational institution, file a formal complaint, and/or appeal a decision made by educational authorities.

The questionnaire distinguished between six levels of government at which decisions made at the school level can be appealed by parents:

- ***Central Government*** – The central government consists of all bodies at the national level that make decisions or participate in different aspects of decision-making.
- ***State Governments*** – The state is the first territorial unit below the nation in "federal" countries or countries with similar types of governmental structures. State governments are the governmental units that are the decision-making bodies at this governmental level.
- ***Provincial/Regional Authorities or Governments*** – The province or the region is the first territorial unit below the national level in countries that do not have a "federal" – or similar type of governmental structure, and the second territorial unit below the nation in countries with "federal" or similar types of governmental structures. Provincial/regional authorities or governments are the decision-making bodies at this governmental level.
- ***Sub-Regional or Inter-Municipal Authorities or Governments*** – The sub-region is the second territorial unit below the nation in countries that do not have a "federal" – or similar type of governmental structure. Sub-regional or inter-municipal authorities or governments are the decision-making bodies at this governmental level.
- ***Local Authorities or Governments*** – The municipality or community is the smallest territorial unit in the nation with a governing authority. The local authority may be the education department within a general-purpose local government or it may be a special-purpose government whose sole area of authority is education.
- ***School, School Board or Committee*** – The school attendance area is the territorial unit in which a school is located. This level applies to the individual school level only and includes school administrators and teachers or a school board or committee established exclusively for that individual school. The decision-making body – or bodies – for this school may be: (1) an external school board, which includes residents of the larger community; (2) an internal school board, which could include headmasters, teachers, other school staff, parents, and students; or (3) both an external and an internal school board. "School networks", "networks of schools", "didactic circles" and "groups of schools" should be considered as schools.

Further references

Hirschman, A.O. (1970), *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*, Harvard University Press, Cambridge, MA.

The following additional materials are available on line at:

StatLink http://dx.doi.org/10.1787/888932310567

- ***Table D6.4. Existence and purpose of parent-teacher associations (2008)***
- ***Table D6.5. Appeals by parents against decisions by schools (i.e. school board or school administrator) (2008)***

Table D6.1.

Requirement for schools to have a governing board in which parents can take part (2008)

		Primary			Lower secondary		
		Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools
		(1)	(2)	(3)	(4)	(5)	(6)
OECD countries	Austria	■	■	△	■	■	△
	Belgium (Fl.)	■	■	a	■	■	a
	Belgium (Fr.)	▲	▲	a	▲	▲	a
	Chile	■	■	△	■	■	△
	Czech Republic	■	■	a	■	■	a
	Denmark	■	■	■	■	■	■
	England	■	■	△	■	■	△
	Finland	△	△	a	△	△	a
	France	■	△	△	■	△	△
	Germany	■	■	m	■	■	m
	Greece	■	a	■	■	a	■
	Hungary	△	m	a	△	m	a
	Iceland	■	■	■	■	■	■
	Ireland	■	a	△	■	a	△
	Italy	■	a	■	■	a	■
	Japan	△	a	△	△	a	△
	Korea	■	a	■	■	■	a
	Luxembourg	▲	■	■	■	■	■
	Mexico	–	a	–	–	a	–
	Netherlands	▲	▲	m	▲	▲	m
	New Zealand	■	■	m	■	■	m
	Norway	△	■	△	△	■	△
	Poland	△	△	△	△	△	△
	Portugal	■	△	△	■	△	△
	Scotland	■	▲	△	■	▲	△
	Slovak Republic	■	▲	a	■	▲	a
	Spain	■	■	△	■	■	△
	Sweden	△	△	a	△	△	a
	Switzerland	△	△	m	△	△	m
	United States	△	a	△	△	a	△
Partner countries	Brazil	△	a	△	△	a	△
	Estonia	■	a	■	■	a	■
	Israel	△	△	△	△	△	△
	Slovenia	■	△	△	■	△	△

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

■ : Yes, and some parent representation is required.
▲ : Yes, but parent representation is optional.
△ : No, boards are not required, although they may exist.
– : No such boards exist.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310567

Table D6.2.

Existence and role of parent associations (2008)

		Existence of parent associations for education				Levels at which parent associations exist														Formal and informal roles of parent associations		
						Public schools				Government-dependent private schools				Independent private schools				Home-schooling				
		Public schools	Government-dependent private schools	Independent private schools	Homeschooling	National level	Regional/state/provincial level	Local/district/municipal level	School level	National level	Regional/state/provincial level	Local/district/municipal level	School level	National level	Regional/state/provincial level	Local/district/municipal level	School level	National level	Regional/state/provincial level	Local/district/municipal level	A formal role in the sense that the government is obliged to consult them on major policy decisions	An informal role in advising government	An informal role in informing parents about relevant developments in education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
OECD countries	Austria	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	a	a	a	a	a	a	a	m	Yes	m
	Belgium (Fl.)	Yes	Yes	a	No	No	Yes	No	Yes	No	Yes	No	Yes	a	a	a	a	a	a	a	Yes	No	No
	Belgium (Fr.)	Yes	Yes	a	No	No	Yes	No	Yes	No	Yes	No	Yes	a	a	a	a	a	a	a	No	Yes	No
	Chile	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No	a	a	a	m	m	m
	Czech Republic	Yes	Yes	a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	a	a	a	a	Yes	No	No	No	Yes	No
	Denmark	Yes	Yes	No	No	Yes	No	Yes	Yes	No	No	No	Yes	a	a	a	a	a	a	a	Yes	Yes	No
	England	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes
	Finland	Yes	Yes	a	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	a	a	a	a	Yes	No	No	No	Yes	Yes
	France	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
	Germany	Yes	Yes	m	a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m	m	a	a	a	No	Yes	Yes
	Greece	Yes	a	Yes	a	Yes	Yes	Yes	Yes	a	a	a	a	Yes	Yes	Yes	Yes	a	a	a	No	Yes	Yes
	Hungary	Yes	Yes	a	No	Yes	No	No	Yes	Yes	No	No	Yes	a	a	a	a	a	a	a	Yes	Yes	No
	Iceland	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes
	Ireland	Yes	a	Yes	No	Yes	No	No	Yes	a	a	a	a	Yes	No	No	Yes	a	a	a	Yes	Yes	a
	Italy	Yes	a	Yes	No	No	Yes	Yes	Yes	a	a	a	a	No	Yes	Yes	Yes	a	a	a	No	Yes	No
	Japan	No	a	Yes	a	a	a	a	a	a	a	a	a	Yes	Yes	No	Yes	a	a	a	No	Yes	No
	Korea	Yes	Yes	Yes	a	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	a	a	a	No	No	Yes
	Luxembourg	Yes	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	a	a	a	No	Yes	Yes
	Mexico	Yes	a	Yes	a	Yes	Yes	No	Yes	a	a	a	a	Yes	Yes	No	Yes	a	a	a	No	Yes	Yes
	Netherlands	Yes	Yes	m	Yes	Yes	No	No	Yes	Yes	No	No	Yes	m	m	m	m	Yes	No	No	No	Yes	Yes
	New Zealand	Yes	Yes	Yes	No	m	Yes	m	Yes	m	Yes	m	Yes	m	Yes	m	Yes	a	a	a	No	Yes	Yes
	Norway	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	a	a	a	Yes	Yes	No
	Poland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Portugal	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a	a	a	Yes	Yes	No
	Scotland	No	m	Yes	No	a	a	a	a	m	m	m	m	No	No	No	Yes	a	a	a	m	m	m
	Slovak Republic	No	No	a	No	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Spain	Yes	Yes	Yes	a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	a	a	a	Yes	Yes	Yes
	Sweden	Yes	Yes	a	No	Yes	Yes	m	Yes	Yes	Yes	m	Yes	a	a	a	a	a	a	a	No	Yes	Yes
	Switzerland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
	United States	Yes	a	Yes	Yes	Yes	Yes	Yes	Yes	a	a	a	a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Partner countries	Brazil	Yes	a	Yes	a	No	Yes	Yes	Yes	a	a	a	a	No	Yes	Yes	Yes	a	a	a	No	Yes	Yes
	Estonia	Yes	a	Yes	Yes	Yes	No	No	No	a	a	a	a	Yes	No	No	No	Yes	No	No	No	Yes	Yes
	Israel	Yes	Yes	Yes	a	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	a	a	a	m	Yes	m
	Slovenia	Yes	No	No	No	Yes	No	No	No	a	a	a	a	a	a	a	a	a	a	a	No	Yes	No

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010).*

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310567

Table D6.3.

Regulations that provide a formal process which parents can use to file complaints regarding the education of their children (2008)

	Regulations provide a formal process that parents can use to file complaints			A designated ombudsman or agency receives complaints			Number of times parents made use of the formal complaint process in 2008		
	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries									
Austria	Yes	Yes	No	Yes	Yes	No	750	m	a
Belgium (Fl.)	Yes	Yes	a	Yes	Yes	a	116	x(7)	a
Belgium (Fr.)	Yes	Yes	a	Yes	No	a	m	m	a
Chile	Yes	Yes	Yes	No	No	No	m	m	m
Czech Republic	Yes	Yes	a	Yes	Yes	a	m	m	a
Denmark	Yes	No	No	No	No	No	m	a	a
England	Yes	Yes	Yes	Yes	Yes	No	m	m	m
Finland	Yes	Yes	a	No	No	a	m	m	a
France	Yes	Yes	No	Yes	Yes	No	2 665	303	a
Germany	Yes	Yes	m	No	No	m	m	m	m
Greece	Yes	a	Yes	Yes	a	Yes	m	a	m
Hungary[1]	Yes	Yes	a	Yes	Yes	a	1 589	m	a
Iceland	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m
Ireland	Yes	a	No	No	a	No	a	a	a
Italy	Yes	a	Yes	No	a	No	m	a	m
Japan	No	a	No	No	a	No	a	a	a
Korea	No	No	No	Yes	Yes	Yes	a	a	a
Luxembourg	Yes	Yes	Yes	Yes	No	No	10	m	m
Mexico	No	a	No	No	a	No	a	a	a
Netherlands	Yes	Yes	m	Yes	Yes	m	m	m	m
New Zealand	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m
Norway	Yes	Yes	Yes	Yes	Yes	Yes	2 699	x(7)	x(7)
Poland	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m
Portugal	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m
Scotland	Yes	m	No	No	m	No	m	m	a
Slovak Republic	Yes	Yes	a	Yes	Yes	a	216	m	a
Spain	Yes	Yes	Yes	No	No	No	m	m	m
Sweden	Yes	Yes	a	Yes	Yes	a	850	103	a
Switzerland	Yes	Yes	Yes	No	No	No	m	m	m
United States	Yes	a	a	No	a	No	m	a	a
Partner countries									
Brazil	No	a	No	No	a	No	a	a	a
Estonia	Yes	a	Yes	Yes	a	Yes	m	a	m
Israel	Yes	Yes	Yes	Yes	Yes	Yes	m	m	m
Slovenia	Yes	Yes	No	Yes	Yes	No	224	1	a

Note: Federal states or countries with highly decentralised school systems may experience regulatory differences between states, provinces or regions. Please refer to Annex 3 for additional information.

1. Reference year 2007.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Annex

1

Characteristics of Educational Systems

Table X1.1a.

Upper secondary graduation rate: Typical graduation ages and method used to calculate graduation rates (2008)

The typical age refers to the age of the students at the beginning of the school year; students will generally be one year older than the age indicated when they graduate at the end of the school year. The typical age is used for the gross graduation rate calculation.

		Typical graduation ages					
		Programme orientation		Educational/labour market destination			
		General programmes	Pre-vocational or vocational programmes	ISCED 3A programmes	ISCED 3B programmes	ISCED 3C short programmes[1]	ISCED 3C long programmes[1]
OECD countries	Australia	17	17	17	17	17	17
	Austria	17-18	17-19	17-18	17-19	14-15	16-17
	Belgium	18	18	18	a	18	18
	Canada	17-18	17-18	17-18	a	a	17-18
	Chile	17	17	17	a	a	a
	Czech Republic	18	17	18	18	a	17
	Denmark	18-19	20-21	18-19	a	27	20-21
	Finland	19	19	19	a	a	a
	France	18-19	17-21	18-19	19-21	17-19	18-23
	Germany	19-20	19-20	19-20	19-20	19-20	a
	Greece	18	18	18	a	18	18
	Hungary	19	19	19	a	18	19
	Iceland	19	17	19	20	17	19
	Ireland	18	19	18	a	19	18
	Italy	19	18	19	18	17	a
	Japan	17	17	17	17	15	17
	Korea	18	18	18	a	a	18
	Luxembourg	17-18	17-20	17-19	18-20	16-18	17-19
	Mexico	18	18	18	a	a	18
	Netherlands	17	19	17	a	a	18
	New Zealand	17-18	17-18	18	17	17	17
	Norway	18	19-20	18	a	m	19-20
	Poland	19	20	19	a	a	19
	Portugal	17	18	17	m	m	m
	Slovak Republic	18	18	18	a	18	17
	Spain	17	17	17	a	17	17
	Sweden	19	19	19	19	19	19
	Switzerland	18-20	18-20	18-20	18-20	17-19	18-20
	Turkey	16-17	16-17	16-17	a	m	a
	United Kingdom	16-18	16-18	18	18	16	16
	United States	17	m	17	m	m	m
Partner countries	Brazil	18	22	18	22	a	a
	China	m	m	m	m	m	m
	Estonia	18	18	18	18	18	a
	India	m	m	m	m	m	m
	Indonesia	18	18	18	18	a	a
	Israel	17	17	17	a	a	17
	Russian Federation	17	17	17	17	16	17
	Slovenia	19	17-19	19	19	17	18

1. Duration categories for ISCED 3C: short – at least one year shorter than ISCED 3A/3B programmes; long – of similar duration to ISCED 3A or 3B programmes.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.1a. *(continued)*

Upper secondary graduation rate: Typical graduation ages and method used to calculate graduation rates (2008)

		Graduation rate calculation: Gross *versus* net						
		First-time graduates	ISCED 3A programmes	ISCED 3B programmes	ISCED 3C short programmes[1]	ISCED 3C long programmes[1]	General programmes	Pre-vocational or vocational programmes
OECD countries	**Australia**	m	net	m	m	net	net	net
	Austria	m	net	net	net	net	net	net
	Belgium	m	net	a	net	net	net	net
	Canada	gross	gross	a	a	gross	gross	gross
	Chile	m	m	a	a	a	m	m
	Czech Republic	gross	gross	m	a	gross	m	m
	Denmark	net	net	a	n	net	net	net
	Finland	net	net	a	a	a	net	net
	France	m	net	net	net	net	net	net
	Germany	gross	gross	gross	gross	a	gross	gross
	Greece	net	net	a	m	net	net	net
	Hungary	net	net	a	m	net	net	net
	Iceland	net	net	net	net	net	net	net
	Ireland	net	net	a	net	net	net	net
	Italy	net	net	gross	gross	a	net	net
	Japan	gross	gross	gross	m	gross	gross	gross
	Korea	gross	gross	a	a	gross	gross	gross
	Luxembourg	net	net	net	net	net	net	net
	Mexico	net	net	a	a	net	net	net
	Netherlands	m	net	a	a	net	net	net
	New Zealand	net	m	m	m	m	m	m
	Norway	net	net	a	m	net	net	net
	Poland	net	net	a	a	net	net	net
	Portugal	net	net	m	m	m	net	net
	Slovak Republic	net	net	a	net	net	net	net
	Spain	gross	gross	a	gross	gross	gross	gross
	Sweden	net	net	n	n	net	net	net
	Switzerland	gross	gross	gross	gross	gross	gross	gross
	Turkey	net	net	a	m	a	net	net
	United Kingdom	gross	m	m	m	m	m	m
	United States	net	m	m	m	m	m	m
Partner countries	**Brazil**	m	net	net	a	a	net	net
	China	m	m	m	m	m	m	m
	Estonia	m	net	net	net	a	net	net
	India	m	m	m	m	m	m	m
	Indonesia	m	net	net	a	a	net	net
	Israel	net	net	a	a	net	net	net
	Russian Federation	m	gross	gross	gross	gross	gross	gross
	Slovenia	gross	net	net	net	net	net	net

1. Duration categories for ISCED 3C: short – at least one year shorter than ISCED 3A/3B programmes; long – of similar duration to ISCED 3A or 3B programmes.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.1b.

Post-secondary non-tertiary graduation rates:[1] Typical graduation ages and method used to calculate graduation rates (2008)

The typical age refers to the age of the students at the beginning of the school year; students will generally be one year older than the age indicated when they graduate at the end of the school year. The typical age is used for the gross graduation rate calculation.

		Typical graduation ages			Graduation rate calculation: Gross versus net			
		Educational/labour market destination						
		ISCED 4A programmes	ISCED 4B programmes	ISCED 4C programmes	ISCED 4 first-time graduates	ISCED 4A programmes	ISCED 4B programmes	ISCED 4C programmes
OECD countries	Australia	a	a	18-20	m	a	a	net
	Austria	18-19	19-20	23-24	m	net	net	net
	Belgium	19	19-21	19-21	m	n	net	net
	Canada	m	a	30-34	m	m	a	m
	Chile	a	a	a	a	a	a	a
	Czech Republic	20	a	20	gross	gross	a	gross
	Denmark	21	a	a	net	net	a	a
	Finland	a	a	35-39	net	a	a	net
	France	22-25	a	22-25	m	gross	a	gross
	Germany	22	22	a	net	net	gross	a
	Greece	a	a	20	net	a	a	net
	Hungary	a	a	20	net	a	a	net
	Iceland	n	n	27	net	n	n	net
	Ireland	a	a	23	net	a	a	net
	Italy	a	a	20	net	a	a	net
	Japan	18	18	18	m	m	m	m
	Korea	a	a	a	a	a	a	a
	Luxembourg	a	a	21-23	net	a	a	net
	Mexico	a	a	a	a	a	a	a
	Netherlands	a	a	20	m	a	a	net
	New Zealand	18	18	18	net	m	m	m
	Norway	20-21	a	21-22	net	net	a	net
	Poland	a	a	21	net	a	a	net
	Portugal	21	21	21	net	m	m	m
	Slovak Republic	20	a	a	net	net	a	a
	Spain	a	a	a	a	a	a	a
	Sweden	n	n	21-23	net	n	n	net
	Switzerland	21-23	21-23	a	gross	gross	gross	a
	Turkey	a	a	a	a	a	a	a
	United Kingdom	n	n	n	n	n	n	n
	United States	m	m	m	m	m	m	m
Partner countries	Brazil	a	a	a	a	a	a	a
	China	m	m	m	m	m	m	m
	Estonia	a	20	a	m	a	net	a
	India	m	m	m	m	m	m	m
	Indonesia	a	a	a	a	a	a	a
	Israel	m	a	a	m	m	a	a
	Russian Federation	a	a	19	m	a	a	gross
	Slovenia	20	20	n	net	net	net	n

1. The table on post-secondary non-tertiary graduation rates (Table A2.5) is available on line *(wwwoecd.org/edu/eag2010)*.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.1c.

Tertiary graduation rate: Typical graduation ages and method used to calculate graduation rates (2008)

The typical age refers to the age of the students at the beginning of the school year; students will generally be one year older than the age indicated when they graduate at the end of the school year. The typical age is used for the gross graduation rate calculation.

		Typical graduation ages				
			Tertiary-type A (ISCED 5A)			
		Tertiary-type B (ISCED 5B)	3 to less than 5 years	5 to 6 years	More than 6 years	Advanced research programmes (ISCED 6)
OECD countries	Australia	20-21	21-22	22-23	24	25-26
	Austria	21-23	22-24	24-26	a	27-29
	Belgium	21-22	22	23-24	24	26-29
	Canada	21-24	22	23-24	25	27-29
	Chile	22-25	23-25	24-26	25-27	30-34
	Czech Republic	21-22	22	24	a	27-28
	Denmark	23-25	24	26	25-29	30-34
	Finland	30-34	24	26	35-39	30-34
	France	20-24	20-23	22-25	28-31	27-29
	Germany	21-23	24-26	25-27	27	28-29
	Greece	22-24	22-24	25-27	a	28
	Hungary	21	23	24	a	30-34
	Iceland	27	24	26	n	30-34
	Ireland	20-21	21	23	25	27
	Italy	22-23	23	25	30-34	29
	Japan	19	21	23	24	26
	Korea	20	22	24	a	30-34
	Luxembourg	n	22-24	23-25	a	30-34
	Mexico	20	23	23-26	m	24-28
	Netherlands	19	23	a	a	28-29
	New Zealand	19-21	21-23	23	n	27-28
	Norway	21-22	22-23	24-25	26-27	28-29
	Poland	22	23	25	a	25-29
	Portugal	21	22	23-24	25-29	30-34
	Slovak Republic	21	21-22	23-24	a	26
	Spain	19	20	22	27-28	25-27
	Sweden	22	25	25	a	30-34
	Switzerland	23-29	24-26	25-27	25-27	30-34
	Turkey	21	23	23	30-34	30-34
	United Kingdom	19-24	20-22	22-24	23-25	25-29
	United States	19	21	23	24	26
Partner countries	Brazil	m	22	m	m	30-34
	China	m	m	m	m	m
	Estonia	22	22	24	a	30-34
	India	m	m	m	m	m
	Indonesia	22-24	22-24	23-25	24-27	25-27
	Israel	m	26	28-29	a	30-34
	Russian Federation	20	21	22	22-23	24-26
	Slovenia	23-26	25-26	25-26	a	29

Note: Where tertiary-type A data are available by duration of programme, the graduation rate for all programmes is the sum of the graduation rates by duration of programme.
Source: OECD.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
StatLink http://dx.doi.org/10.1787/888932310605

Table X1.1c. *(continued)*

Tertiary graduation rate: Typical graduation ages and method used to calculate graduation rates (2008)

		Graduation rate calculation: Gross *versus* net											
		Tertiary-type B (ISCED 5B)				Tertiary-type A (ISCED 5A)						Advanced research programmes (ISCED 6)	
		First-time		First degree		First-time		First degree		Second degree			
		Graduation rate (all students)	Graduation rate for international/ foreign students only	Graduation rate (all students)	Graduation rate for international/ foreign students only	Graduation rate (all students)	Graduation rate for international/ foreign students only	Graduation rate (all students)	Graduation rate for international/ foreign students only	Graduation rate (all students)	Graduation rate for international/ foreign students only	Graduation rate (all students)	Graduation rate for international/ foreign students only
OECD countries	**Australia**	net	m	net	net	net	net	net	net	net	net	net	net
	Austria	net	net	net	net	net	net	net	net	net	net	net	net
	Belgium	m	m	net	m	m	m	net	m	net	m	net	m
	Canada	gross	m	net	gross	gross	m	net	gross	net	gross	net	gross
	Chile	m	m	net	m	m	m	net	m	net	m	net	m
	Czech Republic	net	m	net	m	net	m	net	m	net	m	net	m
	Denmark	net	m	net	gross	net	m	net	gross	net	gross	net	gross
	Finland	n	n	n	n	net	m	net	net	net	m	net	net
	France	m	m	gross	m	m	m	gross	m	gross	m	gross	m
	Germany	gross	m	gross	m	net	m	net	net	net	net	net	net
	Greece	m	m	net	m	m	m	net	m	net	m	net	m
	Hungary	gross	m	net	m	gross	m	net	m	net	m	net	m
	Iceland	net	net	net	net	net	net	net	net	net	net	net	net
	Ireland	gross	m	gross	net	gross	m	gross	net	gross	net	gross	net
	Italy	gross	m	gross	m	net	m	net	m	a	m	m	m
	Japan	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross
	Korea	m	m	net	m	m	m	net	m	net	m	net	m
	Luxembourg	n	m	n	m	net	m	net	m	a	m	gross	m
	Mexico	net	m	net	m	net	m	net	m	gross	m	gross	m
	Netherlands	n	n	n	n	net	net	net	net	net	net	gross	m
	New Zealand	net	net	net	net	net	net	net	net	net	net	net	net
	Norway	net	n	net	n	net	net	net	net	net	net	net	net
	Poland	net	m	net	m	net	m	net	net	gross	net	gross	m
	Portugal	net	m	net	m	net	m	net	m	net	m	net	m
	Slovak Republic	net	m	net	m	net	m	net	m	net	m	net	m
	Spain	net	m	net	m	gross	m	net	m	net	m	net	m
	Sweden	net	net	net	net	net	net	net	net	net	net	net	net
	Switzerland	gross	m	gross	m	net	m	net	net	net	net	net	net
	Turkey	net	m	net	m	gross	m	net	m	net	m	net	m
	United Kingdom	net	m	net	gross	net	m	net	gross	net	gross	net	gross
	United States	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross	gross
Partner countries	**Brazil**	m	m	gross	m	m	m	net	m	net	m	net	m
	China	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	m	m	net	net	m	m	net	net	net	net	net	net
	India	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	net	m	net	m	m	m	net	m	net	m	net	m
	Israel	m	m	m	m	net	m	net	m	net	m	net	m
	Russian Federation	m	m	gross	m	m	m	gross	m	gross	m	gross	m
	Slovenia	net	m	net	gross	net	m	net	gross	net	gross	net	gross

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.1d.

Tertiary entry rate: Typical age of entry and method used to calculate entry rates (2008)

		Typical age of entry			Entry rate calculation: Gross *versus* net — All students			Entry rate calculation: Gross *versus* net — International students		
		ISCED 5A	ISCED 5B	ISCED 6	ISCED 5A	ISCED 5B	ISCED 6	ISCED 5A	ISCED 5B	ISCED 6
OECD countries	Australia	18	18	22-23	net	m	net	net	m	net
	Austria	19-20	20-21	25-26	net	net	net	net	net	net
	Belgium	18	18	m	net	net	m	m	m	m
	Canada	m	m	m	m	m	m	m	m	m
	Chile	18-19	18-19	24-25	net	net	net	m	m	m
	Czech Republic	19	19	24	net	net	net	m	m	m
	Denmark	21	21	27	net	net	net	m	m	m
	Finland	19	19	m	net	a	m	m	a	m
	France	m	m	m	m	m	m	m	m	m
	Germany	19-21	m	m	net	gross	m	net	m	m
	Greece	18	18	23-24	net	net	net	m	m	m
	Hungary	19	19	24	net	net	net	m	m	m
	Iceland	20	20	25	net	net	net	net	net	net
	Ireland	18	18	m	net	net	m	net	net	net
	Italy	19	19	24	net	gross	gross	m	m	m
	Japan	18	18	24	net	gross	net	m	m	m
	Korea	18	18	24-29	net	net	net	m	m	m
	Luxembourg	19-21	n	25-29	net	n	net	m	m	m
	Mexico	18	18	24	net	net	net	m	m	m
	Netherlands	18-19	17-18	m	net	n	m	net	n	m
	New Zealand	18	19	22-28	net	net	net	net	net	net
	Norway	19-20	19	27	net	net	net	net	net	n
	Poland	19-20	19-20	m	net	net	m	net	m	m
	Portugal	18	18	22-24	net	n	net	m	m	m
	Slovak Republic	19	19	24	net	net	net	m	m	m
	Spain	18	18	23	net	net	net	m	m	m
	Sweden	19	19	26	net	net	net	net	net	net
	Switzerland	19-21	18-24	25-29	net	net	net	net	m	net
	Turkey	18-19	18-19	25-26	net	net	net	m	m	m
	United Kingdom	18	18	23	net	net	net	m	m	m
	United States	18	18	24	net	m	m	gross	m	m
Partner countries	Brazil	m	m	m	m	m	m	m	m	m
	China	m	m	m	m	m	m	m	m	m
	Estonia	19	19	24	net	net	net	net	net	net
	India	m	m	m	m	m	m	m	m	m
	Indonesia	19	19	25	net	net	net	m	m	m
	Israel	22-24	18	27-29	net	net	net	m	m	m
	Russian Federation	17	17	23	gross	gross	gross	m	m	m
	Slovenia	19	19	24-26	net	net	net	m	m	m

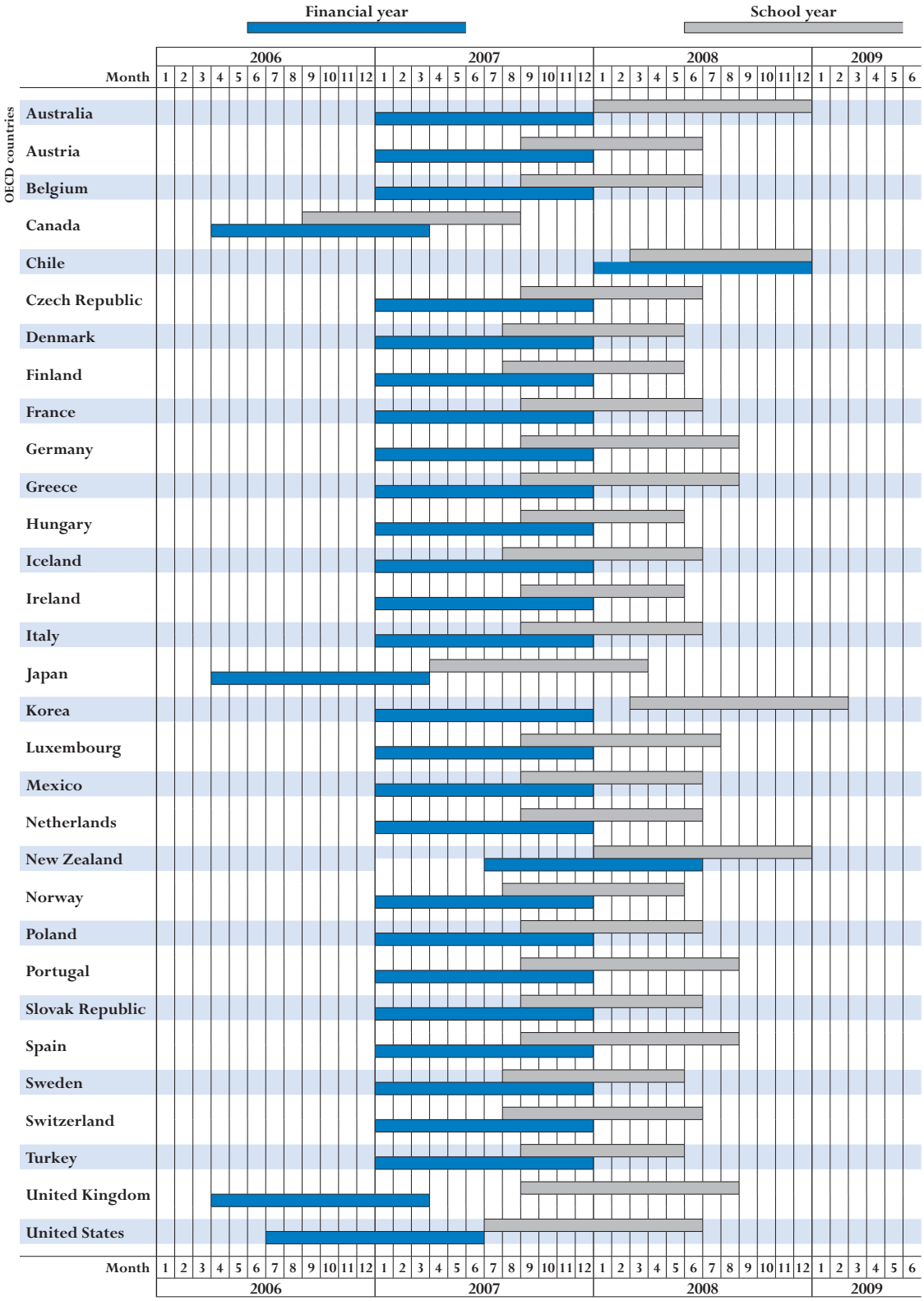
Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.2a.

School year and financial year used for the calculation of financial indicators, OECD countries

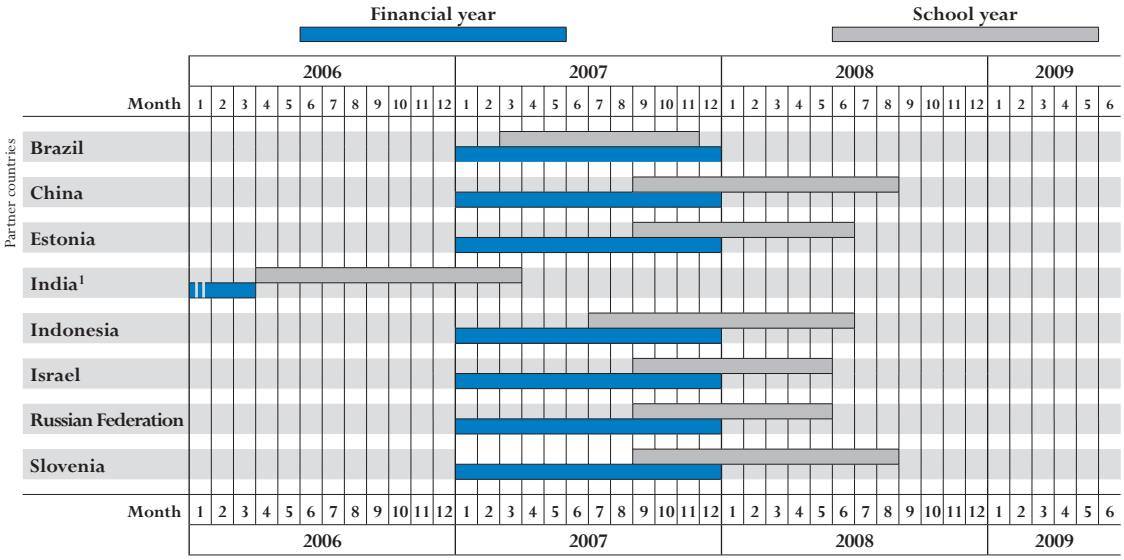


Source: OECD.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.2b.

School year and financial year used for the calculation of financial indicators, partner countries



1. Financial year : from April 2005 to March 2006.

Source: OECD.

StatLink http://dx.doi.org/10.1787/888932310605

Table X1.3.

Summary of completion requirements for upper secondary programmes

		ISCED 3A programmes				ISCED 3B programmes				ISCED 3C programmes			
		Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only	Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only	Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only
OECD countries	**Australia**[1, 2]	N/Y	Y	Y	N	N	Y	N	N	N	Y	N	N
	Austria	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	N
	Belgium (Fl.)[3]	Y	Y	N	N	a	a	a	a	Y	Y	N	N
	Belgium (Fr.)	Y	Y	N	N	a	a	a	a	Y	Y	N	N
	Canada (Quebec)[1]	N	Y	Y	N					N	Y	Y	N
	Czech Republic[1]	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N
	Denmark[1]	Y	Y	Y		a	a	a	a	Y	Y	Y	
	Finland	Y/N	Y	Y	N								
	France	Y	N	Y	N	a	a	a	a	Y/N	Y	N	
	Germany	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N
	Greece[1]	N	Y	N	N					N	Y	N	N
	Hungary	Y	N	Y	N	a	a	a	a	Y	N	Y	N
	Iceland[1]	Y/N	Y	N	N	Y	Y	N	N	Y/N	Y	N	N
	Ireland[1]	Y	N	N	N	a	a	a	a	Y	Y	Y	N
	Italy	Y	N	Y/N	N	Y	Y/N	Y/N	N	Y	N	Y/N	N
	Japan	N	N	Y	N	N	N	Y	N	N	N	Y	N
	Korea	N	N	N	Y					N	N	N	Y
	Luxembourg	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N
	Mexico	N	Y	Y	N					Y/N	Y	Y	N
	Netherlands[1]	Y	Y	Y	N	a	a	a	a	Y	Y	Y	N
	New Zealand	Y	Y	N	N								
	Norway	N	Y	Y	N	a	a	a	a	N	Y	Y	N
	Poland[1]	Y	N	Y	N	a	a	a	a	Y	N	Y	N
	Portugal	m	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic[1]	Y	N	Y	N					Y	N	Y	N
	Spain	N	Y	Y	N					Y/N	Y/N	Y/N	N
	Sweden	Y/N	Y/N	N	Y/N								
	Switzerland	Y	Y	Y		Y	Y	Y		Y		Y	
	Turkey[1]	N	N	Y	N	a	a	a	a	N	N	Y	N
	United Kingdom[1]	N[4]	Y	N	N	a	a	a	a		Y	N	N
	United States[1]	20Y/30N	SS	SS	Y[5]	a	a	a	a	a	a	a	a
Partner country	**Israel**[1]	Y/N	Y	Y	N	a	a	a	a	Y/N	Y	Y	

Note: Y = Yes; N = No; SS = Some states.

1. See Annex 3 Chapter A for additional notes on completion requirements *(www.oecd.org/edu/eag2010)*.
2. Completion requirements for ISCED 3A vary by state and territory. The information provided represents a generalisation of diverse requirements.
3. Covers general education only.
4. There is usually no final examination, though some ISCED 3A programmes can be completed this way.
5. Almost all states specify levels of Carnegie credits (*i.e.* acquired through completion of a two-semester course in specific subjects, which vary by state).

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310605

Annex

2

Reference Statistics

Table X2.1.

Overview of the economic context using basic variables (reference period: calendar year 2007, 2007 current prices)

		Total public expenditure as a percentage of GDP	GDP per capita (in equivalent USD converted using PPPs)	GDP deflator (1995 = 100)	GDP deflator (2000 = 100)	Average exchange rates between 2006 and 2008[1]
OECD countries	Australia	31.2	37 615	144.294	130.990	1.24
	Austria	48.8	36 839	115.471	112.550	0.74
	Belgium	48.4	34 662	122.431	116.040	0.74
	Canada[2]	39.4	36 397	129.196	119.080	1.09
	Chile[3]	22.5	14 106	183.101	156.460	525.07
	Czech Republic	42.5	23 995	164.443	118.580	19.99
	Denmark	50.9	36 326	128.787	116.810	5.50
	Finland	47.3	35 322	118.589	108.960	0.74
	France	52.3	32 495	121.570	115.710	0.74
	Germany	43.7	34 683	109.223	108.120	0.74
	Greece	44.4	27 793	160.005	124.580	0.74
	Hungary	49.8	18 763	281.994	147.370	188.71
	Iceland	42.5	36 325	166.196	140.070	74.24
	Ireland	36.2	44 381	154.839	124.150	0.74
	Italy	47.9	31 016	137.270	119.960	0.74
	Japan	36.8	33 635	89.294	92.000	112.47
	Korea	28.7	26 574	137.463	117.380	995.36
	Luxembourg	36.2	82 456	137.327	127.000	0.74
	Mexico	22.4	14 128	356.910	155.720	10.99
	Netherlands	45.5	39 594	133.550	118.940	0.74
	New Zealand	32.1	27 020	130.969	120.400	1.44
	Norway	41.0	53 672	171.384	130.800	5.97
	Poland	42.2	16 312	203.070	119.730	2.76
	Portugal	45.8	22 638	145.344	123.630	0.74
	Slovak Republic	18.6	20 270	177.039	129.610	25.25
	Spain	39.2	31 469	152.172	132.040	0.74
	Sweden	52.5	36 785	118.430	112.260	6.91
	Switzerland	42.5	41 800	110.028	107.750	1.18
	Turkey	m	13 362	4 725.065	361.940	1.34
	United Kingdom	46.4	34 957	135.013	120.040	0.53
	United States	37.2	46 434	130.282	119.820	1.00
Partner countries	Brazil	32.3	10 770	273.700	180.730	1.96
	China	m	5 345	m	m	m
	Estonia	34.8	20 620	236.755	146.930	11.57
	India[4]	m	2 126	m	m	m
	Indonesia	m	3 728	m	m	m
	Israel	44.0	26 444	150.612	109.480	4.05
	Russian Federation	32.6	14 765	1 367.171	289.430	25.87
	Slovenia	42.4	26 557	200.363	138.130	0.74

1. The average exchange rate is used in Indicator A10.
2. Year of reference 2006.
3. Year of reference 2008.
4. Year of reference 2005.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310624

Table X2.2.

Basic reference statistics (reference period: calendar year 2007, 2007 current prices)[1]

		Gross domestic product (in millions of local currency)[2]	Gross domestic product (adjusted to financial year)[3]	Total public expenditure (in millions of local currency)	Total population in thousand (mid-year estimates)	Purchasing power parity for GDP (PPP) (USD = 1)	Purchasing power parity for GDP (PPP) (euro zone = 1)	Purchasing power parity for private consumption (PPP) (USD = 1)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	**Australia**	1 181 750	1 136 539	354 657	21 236	1.4229	1.6634	1.4671
	Austria	270 782		132 185	8 301	0.8855	1.0352	0.8820
	Belgium	334 917		162 100	10 622	0.9097	1.0634	0.9345
	Canada[4]	1 449 215	1 470 147	578 473	32 932	1.2091	1.4135	1.2302
	Chile[5]	88 535 187		19 877 873	16 770	374.275	437.5438	m
	Czech Republic	3 535 460		1 504 320	10 323	14.2738	16.6867	14.9521
	Denmark	1 691 472		860 451	5 460	8.5282	9.9699	8.8309
	Finland	179 536		84 901	5 289	0.9611	1.1235	1.0344
	France	1 894 646		991 192	63 758	0.9145	1.0691	0.9322
	Germany	2 428 200		1 060 650	82 263	0.8510	0.9949	0.8796
	Greece	226 437		100 460	11 193	0.7279	0.8509	0.7825
	Hungary	25 408 080		12 650 042	10 056	134.6612	157.4248	144.6951
	Iceland	1 301 410		553 091	311	115.0521	134.5009	112.7551
	Ireland	189 751		68 756	4 357	0.9813	1.1472	1.0744
	Italy	1 546 177		739 945	59 375	0.8396	0.9815	0.8878
	Japan[6]	515 804 800	509 474 800	187 281 500	127 771	120.0239	140.3132	134.6561
	Korea	975 013 000		279 372 900	48 456	757.1866	885.1842	863.0747
	Luxembourg	37 466		13 572	480	0.9466	1.1066	0.9948
	Mexico	11 175 985		2 498 978	105 677	7.4857	8.7512	7.8588
	Netherlands	568 664		258 829	16 378	0.8769	1.0252	0.8788
	New Zealand	177 472		56 997	4 264	1.5404	1.8008	1.5826
	Norway	2 271 607		932 296	4 706	8.9936	10.5139	9.5236
	Poland	1 176 737		496 440	38 116	1.8927	2.2126	2.0224
	Portugal	163 052		74 697	10 608	0.6789	0.7937	0.7394
	Slovak Republic	1 854 165		345 750	5 397	16.9504	19.8158	0.611
	Spain	1 052 730		412 751	44 874	0.7455	0.8715	0.8007
	Sweden	3 063 145		1 608 251	9 148	9.1026	10.6414	9.2335
	Switzerland	521 068		221 689	7 619	1.6362	1.9128	1.7650
	Turkey	843 178		m	70 256	0.8982	1.0500	1.1087
	United Kingdom	1 398 882	1 341 116	621 725	60 975	0.6563	0.7672	0.6648
	United States	14 010 800	13 842 150	5 143 896	301 737	1	1.1690	1
	Euro zone					***0.855***		
Partner countries	**Brazil**	2 597 611		840 501	189 847	1.348	1.5194	m
	China	24 954 643		m	m	3.5371	4.1350	m
	Estonia	244 504		85 037	1 342	8.8331	10.3263	9.8637
	India[7]	34 339 015		m	m	14.6686	17.1482	m
	Indonesia	3 956 380 197		m	m	4703.5930	5498.7058	m
	Israel	686 011		301 609	7 180	3.6131	4.2239	3.9591
	Russian Federation	33 111 382		10 787 187	142 009	15.7919	18.4614	m
	Slovenia	34 568		14 665	2 019	0.6448	0.7538	0.6818

1. Data on GDP, PPPs and total public expenditure in countries in the euro zone are provided in euros.
2. GDP calculated for the fiscal year in Australia and GDP and total public expenditure calculated for the fiscal year in New Zealand.
3. For countries where GDP is not reported for the same reference period as data on educational finance, GDP is estimated as: wt-1 (GDPt - 1) + wt (GDPt), where *wt* and *wt-1* are the weights for the respective portions of the two reference periods for GDP which fall within the educational financial year. Adjustments were made in Chapter B for Australia, Canada, Japan, the United Kingdom and the United States.
4. Year of reference 2006.
5. Year of reference 2008.
6. Total public expenditure adjusted to financial year.
7. Year of reference 2005.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310624

Table X2.3a.

Reference statistics used in the calculation of teachers' salaries, by level of education (1996, 2008)

		Teachers' salaries in national currency (1996)[1]								
		Primary education			Lower secondary education			Upper secondary education, general programmes		
		Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	25 693	46 781	46 781	25 693	46 781	46 781	25 693	46 781	46 781
	Austria	19 911	25 522	40 136	20 598	26 791	42 910	21 891	29 334	48 204
	Belgium (Fl.)[2]	20 479	27 542	32 721	20 950	29 346	35 781	25 998	37 534	45 119
	Belgium (Fr.)[2]	20 479	27 542	32 721	20 950	29 346	35 781	25 998	37 534	45 119
	Chile	m	m	m	m	m	m	m	m	m
	Czech Republic	w	w	w	w	w	w	w	w	w
	Denmark	200 000	244 000	250 000	200 000	244 000	250 000	218 000	310 000	325 000
	England	12 113	20 423	20 423	12 113	20 423	20 423	12 113	20 423	20 423
	Finland	17 660	23 378	24 051	19 846	27 751	28 928	20 519	28 928	30 610
	France	w	w	w	w	w	w	w	w	w
	Germany	w	w	w	w	w	w	w	w	w
	Greece	10 772	12 854	15 148	11 141	13 223	15 518	11 141	13 223	15 518
	Hungary	341 289	462 618	597 402	341 289	462 618	597 402	435 279	574 067	717 756
	Iceland	m	m	m	m	m	m	m	m	m
	Ireland	18 235	28 189	33 362	19 141	29 872	33 679	19 141	29 872	33 679
	Italy	14 939	18 030	21 864	16 213	19 796	24 233	16 213	20 412	25 442
	Japan	3 462 000	5 917 000	8 475 000	3 462 000	5 917 000	8 475 000	3 462 000	5 917 000	8 733 000
	Korea	w	w	w	w	w	w	w	w	w
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	29 105	38 606	63 264	37 092	47 174	76 196	m	m	m
	Netherlands	21 772	26 537	32 627	22 925	28 847	35 840	23 120	40 273	47 756
	New Zealand	23 000	39 220	39 220	23 000	39 220	39 220	23 000	39 220	39 220
	Norway	165 228	201 446	204 211	165 228	201 446	204 211	178 752	207 309	222 078
	Poland	m	m	m	m	m	m	m	m	m
	Portugal	9 970	15 001	25 902	9 970	15 001	25 902	9 970	15 001	25 902
	Scotland	12 510	20 796	20 796	12 510	20 796	20 796	12 510	20 796	20 796
	Slovak Republic	m	m	m	m	m	m	m	m	m
	Spain	18 609	21 823	27 940	m	m	m	21 582	25 327	31 780
	Sweden	w	w	w	w	w	w	w	w	w
	Switzerland	65 504	87 585	100 847	m	m	m	m	m	m
	Turkey	w	w	w	a	a	a	w	w	w
	United States	w	w	w	w	w	w	w	w	w
Partner countries	Brazil	m	m	m	m	m	m	m	m	m
	Estonia	25 380	27 120	29 040	25 380	27 120	29 040	25 380	27 120	29 040
	Israel	m	m	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m	m	m
	Slovenia	m	m	m	m	m	m	m	m	m

1. Data on salaries for countries now in the euro zone are shown in euros.
2. Data on teachers' salaries for 1996 refer to Belgium.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310624

Table X2.3a. *(continued)*

Reference statistics used in the calculation of teachers' salaries, by level of education (1996, 2008)[1]

		Teachers' salaries in national currency (2008)[2]									
		Primary education			Lower secondary education			Upper secondary education, general programmes			
		Starting salary / minimum training	Salary after 15 years of experience / minimum training	Salary at top of scale / minimum training	Starting salary / minimum training	Salary after 15 years of experience / minimum training	Salary at top of scale / minimum training	Starting salary / minimum training	Salary after 15 years of experience / minimum training	Salary at top of scale / minimum training	GDP deflator 2008 (1996 = 100)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	49 328	68 586	68 586	49 600	69 794	69 794	49 600	69 794	69 794	150
	Austria	25 454	33 717	50 432	26 615	36 455	52 398	26 993	37 508	55 177	117
	Belgium (Fl.)	26 619	37 432	45 719	26 619	37 432	45 719	33 121	47 976	57 744	124
	Belgium (Fr.)	25 610	35 917	43 872	25 610	35 917	43 872	31 777	46 039	55 418	124
	Chile	m	m	m	m	m	m	m	m	m	179
	Czech Republic	229 253	309 994	339 214	228 725	316 173	344 305	237 470	337 024	370 040	152
	Denmark	320 617	362 222	362 222	320 617	362 222	362 222	334 631	436 926	436 926	131
	England	20 133	29 427	29 427	20 133	29 427	29 427	20 133	29 427	29 427	134
	Finland	28 344	36 862	46 275	31 360	39 501	49 685	31 570	43 326	55 871	121
	France	21 760	29 271	43 189	23 950	31 461	45 480	24 204	31 715	45 759	123
	Germany	37 187	46 295	49 991	41 015	50 544	56 327	44 191	54 369	62 265	110
	Greece	18 691	22 989	27 819	18 691	22 989	27 819	18 691	22 989	27 819	154
	Hungary	1 666 344	2 059 668	2 765 748	1 666 344	2 059 668	2 765 748	1 810 224	2 474 388	3 493 152	239
	Iceland	2 913 387	3 268 766	3 694 797	2 913 387	3 268 766	3 694 797	3 062 000	3 840 000	4 020 000	182
	Ireland	32 127	53 221	60 308	32 127	53 221	60 308	32 127	53 221	60 308	150
	Italy	21 897	26 470	32 232	23 597	28 831	35 383	23 597	29 637	36 986	135
	Japan	3 257 000	5 753 000	7 274 000	3 257 000	5 753 000	7 274 000	3 257 000	5 753 000	7 471 000	89
	Korea	24 271 300	42 003 300	67 314 809	24 175 300	41 907 300	67 218 809	24 175 300	41 907 300	67 218 809	134
	Luxembourg	46 287	64 244	95 967	67 835	93 772	117 850	67 835	93 772	117 850	140
	Mexico	111 331	145 917	241 438	142 458	185 616	306 748	m	m	m	291
	Netherlands	31 170	40 397	45 069	32 028	44 190	49 207	32 344	59 040	65 074	135
	New Zealand	41 002	60 660	60 660	41 002	60 660	60 660	41 002	60 660	60 660	134
	Norway	294 237	367 592	367 592	294 237	367 592	367 592	314 261	387 383	387 383	181
	Poland	13 625	26 944	28 076	15 439	30 850	32 152	17 537	35 459	36 962	177
	Portugal	14 653	23 987	37 619	14 653	23 987	37 619	14 653	23 987	37 619	145
	Scotland	20 094	32 052	32 052	20 094	32 052	32 052	20 094	32 052	32 052	134
	Slovak Republic	m	m	m	m	m	m	m	m	m	175
	Spain	27 962	32 193	39 410	30 638	35 200	42 673	31 925	36 818	44 558	151
	Sweden	256 800	298 800	343 200	262 000	306 300	347 400	276 000	326 900	371 800	121
	Switzerland	72 640	92 617	113 701	82 671	105 874	129 188	96 368	124 936	146 983	112
	Turkey	m	m	m	m	m	m	m	m	m	2 966
	United States	35 999	44 172	50 922	35 915	44 000	53 972	36 398	47 317	53 913	131
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m
	Estonia	107 328	113 656	156 864	107 328	113 656	156 864	107 328	113 656	156 864	203
	Israel	64 792	70 733	98 546	64 792	79 783	98 546	64 792	79 783	98 546	139
	Russian Federation	m	m	m	m	m	m	m	m	m	m
	Slovenia	17 909	20 911	22 145	17 909	20 911	22 145	17 909	20 911	22 145	187

1. For the computation of teachers' salaries in equivalent USD shown in Indicator D3, teachers' salaries are converted from national currencies to USD using January 2008 PPPs for GDP and adjusted for inflation where necessary. Teachers' salaries in equivalent USD based on January 2008 PPPs for final consumption are shown in Table X2.3c of Annex 2.

2. Data on salaries for countries now in the euro zone are shown in euros.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink http://dx.doi.org/10.1787/888932310624

Table X2.3b.

Reference statistics used in the calculation of teachers' salaries (1996, 2008)

		Purchasing power parity for GDP (PPP) (2007)[1]	Purchasing power parity for GDP (PPP) (2008)[1]	Purchasing power parity for GDP (PPP) (January 2008)[1]	Gross domestic product (in millions of local currency, calendar year 2007)[1]	Gross domestic product (in millions of local currency, calendar year 2008)[1]	Total population in thousands (calendar year 2007)	Total population in thousands (calendar year 2008)	GDP per capita (in local currency, January 2008)[1]	Reference year for 2008 salary data	Adjustments for inflation (2008)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD countries	Australia	1.42	1.48	1.45	1 088 923	1 192 647	21 015	21 432	53 732	2008	0.98
	Austria	0.89	0.89	0.89	270 782	281 867	8 301	8 337	33 216	2007-08	1.00
	Belgium (Fl.)[2]	0.91	0.91	0.91	334 948	344 676	10 622	10 708	31 861	2007-08	1.00
	Belgium (Fr.)[2]	0.91	0.91	0.91	334 948	344 676	10 622	10 708	31 861	2007-08	1.00
	Chile	371.42	364.37	367.89	85 621 091	88 535 187	16 598	16 763	5 219 911	m	0.92
	Czech Republic	14.27	14.36	14.32	3 535 460	3 688 994	10 323	10 430	348 098	2007-08	1.00
	Denmark	8.53	8.59	8.56	1 691 472	1 737 448	5 460	5 492	313 077	2007-08	1.00
	England[3]	0.66	0.66	0.66	1 398 882	1 448 391	60 975	61 383	23 269	2007-08	1.00
	Finland	0.96	0.97	0.96	179 536	184 179	5 289	5 313	34 305	1 Oct. 2007	1.00
	France	0.91	0.92	0.92	1 894 646	1 950 085	63 758	64 120	30 065	2007-08	1.00
	Germany	0.85	0.86	0.85	2 428 200	2 495 800	82 263	82 120	29 955	2007-08	1.00
	Greece	0.73	0.74	0.73	226 437	239 141	11 193	11 237	20 756	2007	1.02
	Hungary	134.66	134.01	134.34	25 408 080	26 543 252	10 056	10 038	2 585 471	2008	0.98
	Iceland	115.05	125.07	120.06	1 301 409	1 476 463	311	319	4 401 269	2007-08	1.00
	Ireland	0.98	0.99	0.98	189 751	181 815	4 357	4 443	42 236	2007-08	1.00
	Italy	0.84	0.84	0.84	1 546 177	1 567 851	59 375	59 832	26 122	2007-08	1.00
	Japan	120.02	116.46	118.24	515 804 800	507 567 400	127 771	127 692	4 005 944	2007-08	1.00
	Korea	757.19	761.65	759.42	975 013 000	1 023 937 700	48 456	48 607	20 593 599	2008	0.99
	Luxembourg	0.95	0.95	0.95	37 466	39 348	480	489	79 293	2007-08	1.00
	Mexico	7.49	7.82	7.65	11 175 985	12 078 042	105 677	106 568	109 546	2007-08	1.00
	Netherlands	0.88	0.88	0.88	568 664	595 883	16 378	16 440	35 484	2007-08	1.00
	New Zealand	1.54	1.56	1.55	177 472	181 868	4 264	4 305	41 933	2008	0.98
	Norway	8.99	9.10	9.05	2 271 607	2 543 188	4 706	4 768	508 046	1 Dec. 2007	0.91
	Poland	1.89	1.93	1.91	1 176 737	1 272 838	38 116	38 116	32 133	2007-08	1.00
	Portugal	0.68	0.67	0.68	163 052	166 435	10 608	10 622	15 519	2007-08	1.00
	Scotland[3]	0.66	0.66	0.66	1 398 882	1 448 391	60 975	61 383	23 269	2007-08	1.00
	Slovak Republic	0.56	0.56	0.56	61 547	67 221	5 397	5 406	11 920	m	1.00
	Spain	0.75	0.76	0.75	1 052 730	1 088 502	44 874	45 593	23 667	2007-08	1.00
	Sweden	9.10	9.26	9.18	3 063 145	3 154 630	9 148	9 256	337 832	2007	1.02
	Switzerland	1.64	1.64	1.64	521 068	541 827	7 619	7 710	69 335	2007-08	1.00
	Turkey	0.90	0.96	0.93	843 178	950 098	70 256	71 079	12 684	m	1.06
	United States	1.00	1.00	1.00	14 010 800	14 369 400	301 737	304 529	46 810	2007-08	1.00
Partner countries	Brazil	m	m	m	m	m	m	m	m	m	m
	Estonia	8.83	9.08	8.96	244 504	251 493	1 342	1 341	184 847	2007-08	1.00
	Israel	3.56	3.56	3.56	686 011	725 142	7 180	7 310	97 374	2007-08	1.00
	Russian Federation	m	m	m	m	m	m	m	m	m	m
	Slovenia	0.64	0.66	0.65	34 568	37 135	2 019	2 022	17 745	2007-08	1.00

Note: Adjustments for inflation are used if the reference year deviates from 2007-08 and the inflation between the actual reference year and 2007-08 would deviate more than 1 per cent.

1. Data on PPPs and GDP for countries now in the euro zone are shown in euros.
2. Data on gross domestic product and total population refer to Belgium.
3. Data on gross domestic product and total population refer to the United Kingdom.

Source: OECD.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

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Table X2.3c.

Teachers' salaries (2008)

Annual statutory teachers' salaries in public institutions at starting salary, after 15 years of experience and at the top of the scale, by level of education, in equivalent euros converted using PPPs

		Primary education			Lower secondary education			Upper secondary education		
		Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/minimum training
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	29 108	40 473	40 473	29 269	41 185	41 185	29 269	41 185	41 185
	Austria	25 130	33 289	49 791	26 277	35 992	51 732	26 650	37 031	54 476
	Belgium (Fl.)	25 658	36 080	44 067	25 658	36 080	44 067	31 924	46 242	55 658
	Belgium (Fr.)	24 685	34 619	42 287	24 685	34 619	42 287	30 629	44 375	53 415
	Chile	m	m	m	m	m	m	m	m	m
	Czech Republic	14 059	19 011	20 803	14 027	19 390	21 115	14 563	20 668	22 693
	Denmark	32 880	37 147	37 147	32 880	37 147	37 147	34 317	44 808	44 808
	England	26 809	39 185	39 185	26 809	39 185	39 185	26 809	39 185	39 185
	Finland	25 801	33 555	42 123	28 546	35 957	45 227	28 737	39 439	50 858
	France	20 839	28 032	41 361	22 936	30 129	43 555	23 180	30 373	43 822
	Germany	38 214	47 573	51 371	42 148	51 939	57 882	45 412	55 871	63 985
	Greece	22 805	28 049	33 942	22 805	28 049	33 942	22 805	28 049	33 942
	Hungary	10 690	13 213	17 743	10 690	13 213	17 743	11 613	15 874	22 409
	Iceland	21 305	23 904	27 019	21 305	23 904	27 019	22 392	28 081	29 398
	Ireland	28 673	47 499	53 824	28 673	47 499	53 824	28 673	47 499	53 824
	Italy	22 893	27 674	33 698	24 670	30 142	36 992	24 670	30 985	38 668
	Japan	24 185	42 719	54 013	24 185	42 719	54 013	24 185	42 719	55 476
	Korea	27 685	47 911	76 783	27 576	47 802	76 673	27 576	47 802	76 673
	Luxembourg	42 841	59 460	88 821	62 784	86 790	109 075	62 784	86 790	109 075
	Mexico	12 776	16 745	27 707	16 348	21 301	35 202	m	m	m
	Netherlands	31 106	40 314	44 976	31 962	44 099	49 106	32 277	58 918	64 940
	New Zealand	22 796	33 726	33 726	22 796	33 726	33 726	22 796	33 726	33 726
	Norway	26 019	32 506	32 506	26 019	32 506	32 506	27 790	34 256	34 256
	Poland	6 257	12 374	12 894	7 090	14 168	14 766	8 054	16 285	16 975
	Portugal	19 033	31 157	48 864	19 033	31 157	48 864	19 033	31 157	48 864
	Scotland	26 757	42 680	42 680	26 757	42 680	42 680	26 757	42 680	42 680
	Slovak Republic	m	m	m	m	m	m	m	m	m
	Spain	32 637	37 575	45 999	35 760	41 085	49 807	37 263	42 974	52 008
	Sweden	24 943	29 022	33 335	25 448	29 751	33 743	26 808	31 752	36 113
	Switzerland	38 903	49 601	60 893	44 275	56 701	69 187	51 610	66 910	78 717
	Turkey	m	m	m	m	m	m	m	m	m
	United States	31 607	38 783	44 710	31 533	38 632	47 387	31 958	41 544	47 336
	OECD average	*25 417*	*34 616*	*42 163*	*26 998*	*36 812*	*44 470*	*28 590*	*40 256*	*48 042*
	EU19 average	*25 135*	*33 875*	*41 246*	*26 982*	*36 453*	*43 637*	*28 148*	*39 548*	*47 420*
Partner countries	Brazil	m	m	m	m	m	m	m	m	m
	Estonia	10 519	11 139	15 374	10 519	11 139	15 374	10 519	11 139	15 374
	Israel	15 979	17 444	24 303	15 979	19 676	24 303	15 979	19 676	24 303
	Russian Federation	m	m	m	m	m	m	m	m	m
	Slovenia	24 119	28 161	29 823	24 119	28 161	29 823	24 119	28 161	29 823

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2010)*.
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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General notes

Definitions

Gross domestic product (GDP) refers to the producers' value of the gross outputs of resident producers, including distributive trades and transport, less the value of purchasers' intermediate consumption plus import duties. GDP is expressed in local money (in millions). For countries which provide this information for a reference year that is different from the calendar year (such as Australia and New Zealand), adjustments are made by linearly weighting their GDP between two adjacent national reference years to match the calendar year.

The **GDP deflator** is obtained by dividing the GDP expressed at current prices by the GDP expressed at constant prices. This provides an indication of the relative price level in a country. Data are based on the year 2000.

GDP per capita is the gross domestic product (in equivalent US dollars converted using PPPs) divided by the population.

Purchasing power parity exchange rates (PPP) are the currency exchange rates that equalise the purchasing power of different currencies. This means that a given sum of money when converted into different currencies at the PPP rates will buy the same basket of goods and services in all countries. In other words, PPPs are the rates of currency conversion which eliminate the differences in price levels among countries. Thus, when expenditure on GDP for different countries is converted into a common currency by means of PPPs, it is, in effect, expressed at the same set of international prices so that comparisons between countries reflect only differences in the volume of goods and services purchased.

Total public expenditure as used for the calculation of the education indicators, corresponds to the non-repayable current and capital expenditure of all levels of government. Current expenditure includes final consumption expenditure (*e.g.,* compensation of employees, consumption intermediate goods and services, consumption of fixed capital, and military expenditure), property income paid, subsidies, and other current transfers paid (*e.g.,* social security, social assistance, pensions and other welfare benefits). Capital expenditure is spending to acquire and/or improve fixed capital assets, land, intangible assets, government stocks, and non-military, non-financial assets, and spending to finance net capital transfers.

Sources

The 2010 edition of the *National Accounts of OECD Countries: Detailed Tables, Volume II* (Forthcoming).

The theoretical framework underpinning national accounts has been provided for many years by the United Nations' publication *A System of National Accounts*, which was released in 1968. An updated version was released in 1993 (commonly referred to as SNA93).

OECD Analytical Database, March 2010.

Annex

3

Sources, Methods and Technical Notes

Annex 3 on sources and methods is available in electronic form only. It can be found at:
www.oecd.org/edu/eag2010

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