Myths and methods on access and participation in higher education in international comparison

Thematic report

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0 Samenvatting

0.1 Aanleiding en vraagstelling

'Maximale deelname' is een adagium dat in HOOP 2004 in Nederland naar voren is geschoven, maar ook internationaal al een tijd opgeld doet. Het streven van Westerse samenlevingen om zich te ontwikkelen tot kennissamenlevingen en kenniseconomieën is veelal een achterliggende reden voor de wens om de deelname in het hoger onderwijs te vergroten. In een aantal landen is die doelstelling verder uitgewerkt in een concreet streefcijfer. Met name de 50%-doelstellingen in Engeland en Zweden hebben de Nederlandse overheid ertoe aangezet om een overeenkomstig target voor haar deelnamebeleid te formuleren. Hoe de participatiegraad exact moet worden gemeten wordt door het Ministerie niet aangegeven. Omdat ook de spaarzame indicatoren die in de internationale databases van OESO en EU worden gebruikt aan kritiek blootstaan heeft het Ministerie van Onderwijs, Cultuur en Wetenschap een onderzoek aanbesteed aan het Center for Higher Education Policy Studies (CHEPS) waarin de volgende tweeledige vraagstelling centraal staat:

- Op welke manieren kan de participatiegraad in het hoger onderwijs worden berekend en internationaal worden vergeleken?
- Hoe wordt informatie over de participatiegraad in het hoger onderwijs gebruikt?

Het onderzoekt omvat informatie over zes Westerse landen en hun hoger onderwijssystemen en strekt zich, voor zover het kwantitatieve informatie betreft, uit over de periode 1995 tot (zo) recent (mogelijk). Bij de uitvoering heeft CHEPS samengewerkt met een staflid van de AUCC, Canada.

0.2 Beleidscontexten: doelstellingen en instrumenten; een internationale verkenning

Het 50%-target sluit aan bij targets die in het buitenland zijn geformuleerd. Om na te gaan hoe die targets in het deelnamebeleid passen is in het tweede hoofdstuk de beleidscontext van de deelname targets in de zes referentielanden beschreven. Bij die beschrijving is aandacht geschonken aan hoe de doelstelling precies is omschreven, welke achterliggende doelen met de 50% participatie moeten worden bereikt en welke instrumenten hiervoor worden gebruikt of voorgesteld.
Uit de beschrijvingen van de nationale cases kwamen drie beleidsoriëntaties naar voren:

- Gerichtheid op toegankelijkheid: jonge mensen moeten, ongeacht hun afkomst, de mogelijkheid krijgen om bij 'academische geschiktheid' deel te nemen aan hoger onderwijs

- Gerichtheid op capaciteit: door de capaciteit (in termen van aantal studentplaatsen) te vergroten kan ook de deelname worden vergroot. Daarbij is er geen speciale aandacht voor specifieke groepen potentiële studenten.
- Gerichtheid op de productie van afgestudeerden: door de deelname te maximaliseren moet de productie van afgestudeerden ook maximaal worden. Dit wordt van groot belang geacht om de opleidingsgraad van de (beroeps)bevolking te verhogen en zodoende de concurrentiekracht van de economie te vergroten

In alle beschreven landen is een mix van deze beleidsoriëntaties te vinden. In Engeland staat de toegankelijkheid centraal in het deelnamebeleid, waarbij de aandacht uitgaat naar het vergroten van de instroom van studenten uit niet-traditionele groepen. In de ontwikkeling van de *foundation degree* als een kort programma waar een belangrijk deel van de nieuwe toestroom moet worden opgevangen zien we de capaciteitsgerichtheid van het Engelse deelnamebeleid.
In het Zweedse deelnamebeleid staan de toegankelijkheid en de productiviteit naast elkaar. Om de Zweedse concurrentiepositie op de wereldmarkt te behouden wil de Zweedse overheid de productie van afgestudeerden op peil houden of vergroten. Daartoe moet de instroom in het hoger onderwijs omhoog. Die verhoogde instroom moet voor een belangrijk deel komen van een grotere deelname van achterstandsgroepen maar de Zweden benadrukken dat het vergroten van de toegankelijkheid van die groepen niet alleen uit concurrentieoverwegingen wordt nagestreefd.
In Nederland en Finland ligt de nadruk van het deelnamebeleid iets meer op de productie van hoger opgeleiden. Capaciteitsoverwegingen (Finland) en toegankelijkheidsmotieven (Nederland) spelen zijdelings wel een rol maar de bijdrage die hoger opgeleiden aan de concurrentiepositie van het land kunnen leveren staat in deze landen voorop.
Canada en de VS zijn naties waar geen sprake is van een eenvormig deelnamebeleid. De bemoeienis van de federale overheid met het deelnamebeleid is minimaal waardoor de afzonderlijke staten/provincies een eigen deelnamebeleid voeren. In het algemeen worden in beleidsstukken uitbreidingen van de capaciteit en het verbreden van de toegankelijkheid voor achterstandsgroepen als doelstellingen van deelnamebeleid gepresenteerd.
Kwantitatieve doelstellingen met betrekking tot participatie zijn in Engeland, Zweden, Nederland en Finland te vinden. In de eerste drie landen hebben deze doelstellingen een vrij generiek karakter (50%), in Finland worden de streefcijfers tot op discipline-niveau voor instroom en uitstroom beschreven.
In alle landen is of wordt de rol van de hoger onderwijsinstellingen belangrijk bij de uitvoering van het deelnamebeleid dat op nationaal niveau is geformuleerd. De overheid voert in Zweden, Nederland en Engeland wel flankerend beleid waardoor het beleidsinstrumentarium van de instellingen voor het uitvoeren van het beleid wordt

verruimd maar de uiteindelijke implementatie wordt (meer) in handen van de instellingen gelegd.

0.3 Indicatoren

Informatie over de participatiegraad in het hoger onderwijs wordt al enkele decennia door UNESCO gepubliceerd. De indicator die daarvoor gebruikt wordt is relatief eenvoudig te berekenen maar de resultaten zijn gevoelig voor structuurverschillen in hoger onderwijs systemen. Mede daardoor zijn er sinds begin jaren negentig betere, meer gedetailleerde, gegevens beschikbaar gekomen die de ontwikkeling van andere indicatoren mogelijk maakten. Enkele van deze indicatoren worden nog steeds in de jaarlijkse OESO uitgaven *Education at a Glance* gepubliceerd. Toch zijn ook deze indicatoren niet ongevoelig voor systeemverschillen wat een betrouwbare internationale vergelijking van participatiegraden bemoeilijkt. Systeemverschillen (wat wordt onder hoger onderwijs verstaan, wat wordt onder deelname verstaan, de leeftijd van instroom en studenten, gedeelde of ongedeelde gradenstructuren) blijken internationale vergelijking te frustreren en elke indicator gaat op één of meer aspecten mank. Vandaar dat in het onderzoek is gekozen voor de ontwikkeling van een aantal indicatoren die in combinatie een betrouwbare internationale vergelijking de participatiegraad in het hoger onderwijs mogelijk moeten maken.

Ter beantwoording van het eerste deel van de vraagstelling zijn acht indicatoren voor participatiegraad beschreven en zijn de scores op die indicatoren, voor zover de beschikbare data dat toestonden, berekend. Omdat deze indicatoren niet aansluiten bij de productie gerichte beleidscontext is er ook aandacht besteed aan twee indicatoren die niet direct als participatie-indicatoren zijn te kenschetsen maar gericht zijn op output en outcome kenmerken van het hoger onderwijs(beleid).
De indicatoren voor participatiegraad zijn onderverdeeld in twee groepen. De eerste groep betreft indicatoren die gebaseerd zijn op instroomgegevens en de tweede groep omvat indicatoren waarbij gebruik is gemaakt van gegevens over ingeschreven studenten.

0.3.1 Entry rate indicatoren

Instroomratio's (*entry rates*) moeten een idee geven van het deel van de bevolking dat van de mogelijkheid om in te stromen in het hoger onderwijs gebruik heeft gemaakt. Het vervolg van de hoger onderwijsloopbaan (of ze een diploma halen, uitvallen, van studie veranderen of wat dan ook) is bij deze indicatoren niet relevant. Vandaar dat ze vooral goed te gebruiken zijn om inzicht te krijgen in de toegankelijkheid van het hoger onderwijs. In het rapport worden vier indicatoren onderscheiden. Het gemeenschappelijke van deze indicatoren is dat de noemer van de ratio betrekking heeft op het aantal eerstejaars dat niet eerder in het hoger onderwijs is ingeschreven

geweest. Drie van de vier instroomratio's hebben verder gemeen dat ze zijn opgebouwd uit 'deelratio's' die op hun beurt zijn berekend als het aantal eerstejaars van een bepaalde leeftijd (bijvoorbeeld 18 jaar) gedeeld door het aantal mensen in de bevolking van dezelfde leeftijd (dus ook 18 jaar). Deze drie instroomratio's verschillen van elkaar in de leeftijden die bij berekening worden meegenomen. Zo worden in de eerste ratio, die gebruik maakt van de OESO-definitie, de deelratio's van alle leeftijden van 17 tot 70 meegenomen. In de tweede ratio, die gebaseerd is op een in Engeland gebruikte definitie, worden de deelratio's van de leeftijden 17 tot en met 30 jaar opgeteld en de derde instroomratio, gebruik makend van een Zweedse definitie, neemt de 17 tot en met 25 jarigen mee. Doordat deze indicatoren een beperktere, jongere referentiegroep gebruiken geven ze een beeld van de initiële instroom terwijl de OESO definitie veel meer elementen van levenlang leren in zich herbergt. Omdat de Nederlandse doelstelling en de manier waarop ze is gepresenteerd, vooral de initiële instroom betreft, richten we ons in het onderzoek vooral op deze groep (en laten we het lll links liggen).
De vierde instroomratio, die ook een Zweedse definitie gebruikt, verschilt van de derde indicator in de manier waarop eerstejaars aan de bevolking wordt gekoppeld. De eerste drie indicatoren maken gebruik van een synthetische cohort benadering. Daarbij worden de gegevens voor de berekening van de deelratio's uit één jaar gebruikt. Bij de vierde instroomratio worden gegevens uit negen jaren gebruikt. Voor het berekenen van de score in 2003 wordt het aantal 17 jarige instromers (2003) gedeeld door het aantal 17 jarigen in de bevolking (2003), het aantal 18-jarige instromers in 2002 door het aantal 18 jarigen in de bevolking in 2002 enzovoort. De reden voor deze ingewikkelde methode is om de invloed van schommelingen in de omvang van geboortecohorten te beperken. Het blijkt namelijk dat de synthetische cohort benadering in landen waar het aantal 18-jarigen de laatste tien jaar is gedaald (zoals in Nederland, Zweden en Engeland) een hogere score geeft dan de hiervoor beschreven 'true cohort' benadering. Nadeel van de '*true cohort*' benadering is dat voor het berekenen van een tijdsreeks relatief veel gegevens nodig zijn (die in veel landen niet altijd beschikbaar zijn).

0.3.2 Participation rate indicatoren

De tweede groep indicatoren betreft indicatoren die gebruik maken van studentgegevens. De gebruikte definities zijn niet afkomstig van bestaande bronnen maar door de onderzoekers geformuleerd. Bij het gebruik van traditionele participatiegraad indicatoren in internationale vergelijkingen is de afgelopen jaren gebleken dat verschillen in de nationale onderwijsstructuren de resultaten aanzienlijk kunnen vertekenen. Welke programma's tot hoger onderwijs worden gerekend en welke niet is in dit opzicht van groot belang. We wijzen in dit verband op de vertekenende invloed die de *Community Colleges* in de VS kunnen hebben. Daarnaast

zijn er ook nationale verschillen in de wijze waarop studenten van de voorzieningen gebruik maken, waarbij we wijzen op verschillen in aanvangsleeftijd (uitstelgedrag) en verblijfsduur. Vandaar dat de onderzoekers vier indicatoren hebben gedefinieerd die ieder op een andere manier tegen relevante structuurkenmerken aankijken. Eén van de uitgangspunten daarbij is dat de aandacht uitgaat naar initieel hoger onderwijs en dat lll elementen buiten beschouwing worden gelaten.
Bij de eerste indicator in deze groep (*initial participation*) staat de traditionele sudent centraal: snel na het behalen van het secundair onderwijs diploma voltijds gaan studeren. De gebruikte definitie sluit aan bij een indicator die voorheen door de OESO werd gebruikt (het aantal studenten van 18 tot 21 jaar gedeeld door de bevolking van 18 tot 21 jaar), met dien verstande dat de leeftijdsgroep variabel is gemaakt. In deze indicator worden de vier jaargroepen meegenomen waarin de meeste studenten zijn ingeschreven. Afhankelijk van het uitstelgedrag van studenten verschilt dat per land. Zo is de gebruikte leeftijdsgroep in het VK en de VS 18-21 jaar, terwijl dat in Nederland en Canada de 19 tot 22 jarigen betreft. Door het variabel maken van de leeftijdsgroep wordt een deel van de vertekenende effecten van de verschillen in uitstelgedrag weggenomen. Dit geldt ook voor de tweede indicator (de *varying pathways*). Deze indicator verschilt van de eerste in dat naast voltijdse studenten nu ook deeltijdstudenten in de berekeningen worden meegenomen. Vooral in Canada en de VS blijkt deeltijdstudie een alternatieve route naar een hoger onderwijsdiploma. Bij vergelijking met de eerste indicator wordt de bijdrage die deeltijdinschrijvingen aan de participatiegraad leveren zichtbaar gemaakt.
De lengte van de leeftijdsgroep die bij de bovenstaande indicatoren wordt gebruikt (4 jaar) is voor de Angelsaksische hoger onderwijssystemen een redelijke benadering van de duur van de programma's en de gemiddelde verblijfsduur van studenten. In veel continentale landen blijkt de lengte van de programma's en de gemiddelde verblijfsduur die vier jaar te overstijgen. Om de invloed van de verschillen in programma lengte en verblijfsduur in internationale vergelijking te verdisconteren zijn de laatste twee indicatoren gedefinieerd. Bij de eerste van deze twee wordt de definitie van de *varying pathways* indicator opgerekt van een variabele 4 jarige naar een variabele 7 jarige leeftijdsgroep. De som van het aantal studenten (voltijd en deeltijd) dat in de zeven grootste leeftijdsgroepen zit wordt nu gedeeld door de som van de bevolking in de overeenkomstige leeftijdsgroep. Vergelijking van de scores op deze indicator met de *varying pathways* indicator levert inzicht op over de participatie van mensen in langere programma's/ met langere verblijfsduur. Als de score op deze '*extended participation'* indicator veel lager is dan de score op de *varying pathways* indicator dan betekent dit dat er relatief weinig studenten lang studeren.
De laatste indicator is gebaseerd op een netto participatiegraad (*net enrolment rate*). Voor de berekening van de netto participatiegraad wordt per leeftijd de ratio tussen aantal studenten en bevolking berekend (18-jarige studenten gedeeld door 18 jarige bevolking enzovoort). Al die netto participatiegraden worden vervolgens bij elkaar

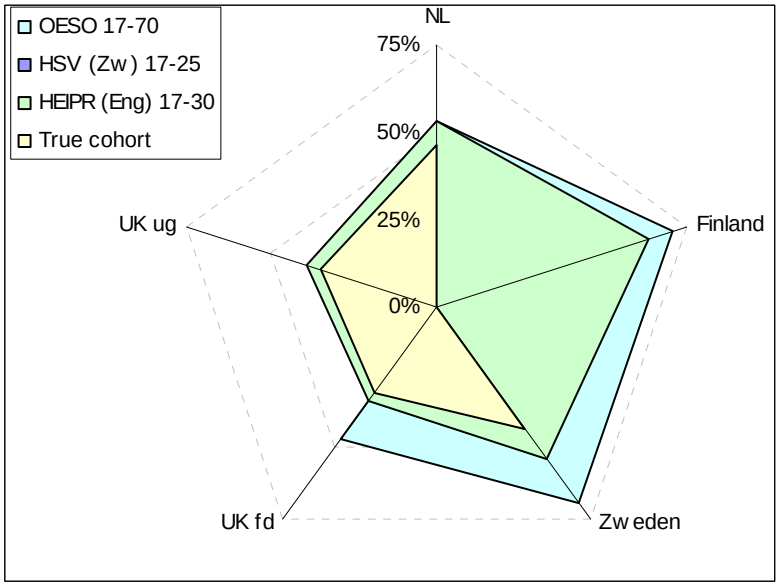
opgeteld en gedeeld door een geschatte gemiddelde verblijfsduur. Het sterke punt van deze indicator is dat een mogelijk vertekenend effect van verschillen in programmaduur of verblijfsduur wordt weggenomen. De achilleshiel van de indicator zit in de beschikbaarheid van gegevens over de gemiddelde verblijfsduur. Deze blijkt voor veel landen beperkt en heeft in die gevallen meestal betrekking op de afgestudeerden. Dit laatste is problematisch omdat die verblijfsduur verschilt van de verblijfsduur van uitvallers (in veel systemen rond 25% van de instroom).

De lijst van indicatoren wordt afgesloten door twee indicatoren die niet echt als participatiegraden kunnen worden omschreven, maar zich richten op de output en outcomes van het hoger onderwijs(beleid). Allereerst is de afgestudeerden-ratio beschreven. Deze indicator geeft aan welk deel van een leeftijdscohort een hoger onderwijsdiploma behaalt. Er zijn verschijningsvormen van deze indicator: de bruto indicator (alle afgestudeerden van een jaar gedeeld door de bevolking die net zo oud is als de 'standaard' afstudeerleeftijd) en de netto indicator (de afgestudeerden met leeftijd X gedeeld door de bevolking met de leeftijd X). Het gebruik van deze indicator (de OESO presenteert een bruto versie in *Education at a Glance*) roept nogal wat vragen op. Met name dubbeltellingen van diploma's kunnen vertekenend werken en leiden tot resultaten die niet stroken met de resultaten van de acht hiervoor beschreven indicatoren. Een andere door beleidsmakers veel gebruikte indicator voor de outcomes van hoger onderwijs is de opleidingsgraad van de bevolking (*educational attainment*). Ook hier zijn OESO-gegevens de best beschikbare gegevens maar wederom moeten bij de bruikbaarheid van die gegevens voor het onderhavige rapport vraagtekens worden geplaatst. Zo is onvoldoende duidelijk welke onderwijsprogramma's worden meegenomen in de onderscheiden categorieën 'tertiary A' en 'tertiary B' en staat ook de betrouwbaarheid van de informatie uit de internationale *Labour Force Surveys* niet buiten kijf. Deze bedenkingen zijn aanleiding geweest de output/outcome gerelateerde indicatoren bij de verdere analyses goeddeels buiten beschouwing te laten.

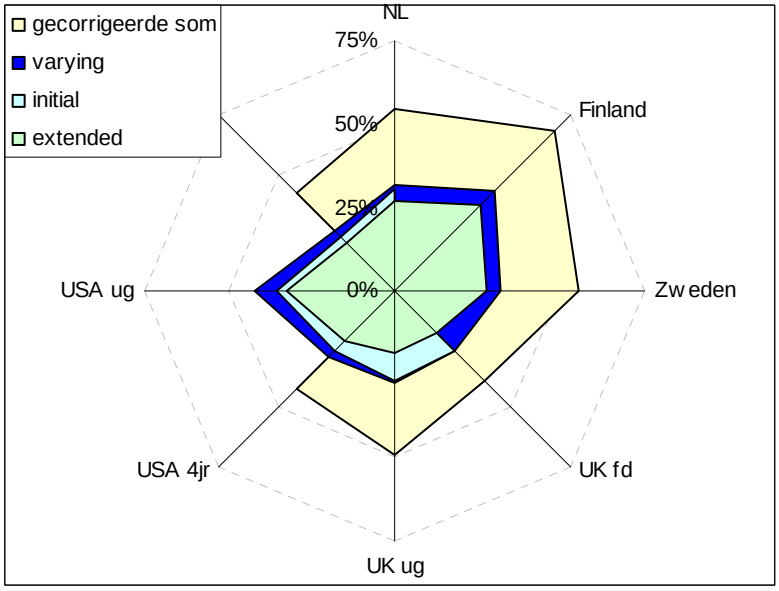
0.4 Waar staat Nederland ?

Bij de berekeningen van de scores op de acht indicatoren is er voor drie landen een onderscheid gemaakt tussen korte '*undergraduate'* programma's en 4-jarige of *first degree* programma's. Het antwoord op de vraag wat onder hoger onderwijs wordt verstaan blijkt voor door de VS en in mindere mate voor het VK ingrijpende gevolgen te hebben voor de scores op de indicatoren. De scores zonder de korte programma's blijken aanzienlijk lager te liggen dan de scores inclusief de korte programma's.

Scores op entry rate indicatoren (2003)



Scores op participation rate indicatoren (2003)



Nederland stond er in 2003 voor wat betreft de participatiegraad in het hoger onderwijs niet slecht voor. Alleen Finland scoort consequent hoger en ook de VS (inclusief de korte programma's) streeft Nederland voorbij in participatiegraad. De score van Zweden is min of meer vergelijkbaar met de Nederlandse score. Deze twee landen vormen binnen de groep van zes landen die in het onderzoek zijn geanalyseerd de stevige middenmoters. Het Verenigd Koninkrijk (alleen bachelor programma's) en Canada (alleen 4 jarige programma's) vormen de staart van de groep, waarbij ook de VS (alleen 4 jarige programma's) niet veel hoger scoort.

Voor wat betreft de ontwikkeling van de participatiegraad in de tijd zijn de resultaten niet helemaal eenduidig. Uit de meeste indicatoren blijkt dat de participatiegraad van 1995 tot 2000 sterk is toegenomen en van 2000 tot 2002 vrijwel gestabiliseerd is. In 2003 blijkt de participatiegraad weer omhoog te gaan. De Nederlandse ontwikkeling is vergelijkbaar met de situatie in het VK. In Zweden en Finland is de stijging omvangrijker (hoewel ook in Finland de groei er een beetje uit is) en in de VS en Canada is de groei minder sterk geweest. De situatie lijkt voor Nederland aanzienlijk rooskleuriger als we de cohort-gebaseerde instroom indicator bekijken. Daaruit blijkt dat de instroomratio gestaag is toegenomen (sinds 1998) in een tempo dat hoger ligt dan het Zweedse en Finse.

0.5 Conclusies

Uit het onderzoek komt naar voren dat de ideale hoger onderwijsparticipatiegraad indicator in internationale vergelijkingen niet bestaat. Om tot een zo volledig mogelijk beeld te komen van de participatie is het nodig om de scores op een aantal indicatoren in samenhang te bekijken. Verschillen tussen de nationale systemen, die internationale vergelijking aanzienlijk kunnen frustreren, kunnen zodoende zichtbaar worden gemaakt en hun invloed op de participatiegraad-scores kan tussen de landen worden vergeleken.

De resultaten op de verschillende indicatoren blijken tot een redelijk consistente ordening van de landen naar participatiegraad te komen. Dat de beperkte informatie over outputindicatoren niet op alle punten met de participatiegraden valt te rijmen is gezien de bedenkingen bij de kwaliteit van de outputindicatoren niet verrassend.

Het gebruik van genormaliseerde scores op de indicatoren biedt de mogelijkheid de kenmerken van participatie in een land in een participatieprofiel te vervatten. Daarin wordt in een oogopslag duidelijk op welke indicatoren/aspecten de score van een land afwijkt van het gemiddelde van de groep. De relevantie van dergelijke profielen kan worden vergroot door het aantal landen in de analyses te vergroten waardoor de vergelijkingsbasis solider wordt.

De ontwikkeling van indicatoren voor participatie in het hoger onderwijs staat nog in de kinderschoenen. Een belangrijke reden daarvoor is de op sommige punten beperkte beschikbaarheid van statistische gegevens. Hierdoor kunnen de indicatorscores niet altijd voor alle landen worden berekend. Om verandering in deze situatie te brengen is een grote inspanning van de landen nodig. Of die inspanning de moeite loont hangt voor een deel af van de beleidscontext waarin landen hun deelnamebeleid plaatsen. Als een land de nadruk legt op de toegankelijkheid dan zal de aandacht zich vooral richten op de entry rate indicatoren terwijl in landen waar de productiviteit voorop staat de output/outcome indicatoren van groter belang worden geacht. Daarbij heeft de laatstgenoemde groep landen een relatief groot ‘probleem’: de output/outcome indicatoren zijn relatief het slechtst ontwikkeld. Of het verder ontwikkelen van de

indicatoren en de achterliggende gegevens loont hangt niet alleen van de nationale context af, maar wordt ook steeds meer beïnvloed door de groeiende vraag naar internationaal vergelijkende gegevens ten gevolge van internationaliseringsprocessen als het Lissabonproces.

Voor het gebruik van de gegevens die door indicatoren worden gegenereerd is het belang de nationale contexten in het oog te houden. Deze context omvat niet alleen de doelstellingen en instrumentatie die in verschillende landen zijn geformuleerd maar omvat ook de kenmerken van de (hoger) onderwijsstructuur, de programma's en de manier waarop daarvan door (jonge) mensen gebruik van wordt gemaakt. Dit is vooral van belang als ronkende beleidsdoelstellingen als 'Naar 50%' worden geformuleerd die vervolgens een eigen leven gaan leiden. Zonder de context loopt men door het gebruik van simpele, heldere doelstellingen het gevaar de beleidsdiscussies te vertroebelen.

1 Introduction

1.1 Context and central questions

The expansion of higher education is an issue that is high on the agenda of many national and international higher education policymakers. Progress towards a knowledge based economy and society is a major driving force behind economic as well as education policies. Processes of globalization tend to amplify the perceived need to strengthen the knowledge-based character, which calls for expansion of higher education systems.
In this context, the rate of participation has become an important indicator for the progress towards the knowledge-based society. It is one of the 29 indicators that the EU uses to monitor progress and in a number of countries, the position on this indicator in international comparisons has become a driving force for (higher) education policy. In some countries (the UK, Sweden and more recently the Netherlands) specific targets for the rate of participation have been set. Given this relevance of international comparison of the indicator rate of participation in higher education, it is surprising to find that there is no common and clear understanding of how the rate of participation is defined and calculated and how differences in scores between countries or trends within countries may be interpreted.

In a recent document underlying Dutch higher education policy (Kennis in Kaart 2004), the Dutch Ministry of Education, Culture and Science stated that international comparison of rates of participation is problematic. According to the Ministry double counting and the use of 'synthetic cohorts' may lead to overestimation of participation in certain countries.
Within this context, the Dutch Ministry of Education, Culture and Science has commissioned the Center for Higher Education Policy Studies to perform an international comparative study, within the framework of the International Higher Education Monitor, on the rate of participation in higher education.

The two central questions of the study are:

A. Are there different measures of participation rates in higher education that can be calculated and compared internationally?
B. How do the different measures of participation inform various public policy issues?

The first question will be dealt with in chapter 3. A number of indicators will be presented, their rationale, strong points and weak points will be laid out and discussed and scores will be calculated for six Western higher education systems.

The primary purpose of indicators is to inform public policy. Policymakers and policy analysts may use indicator based information to identify, discuss, and evaluate relevant policy issues. What relevant issues are is determined partly by the goals that are explicitly set in the national or international policy settings. This refers to the evaluative use of indicators in which indicators are used to monitor progress toward the achievement of (well specified) goals. The relevance of issues may also originate from international comparisons. What do other countries do regarding participation in higher education and do we stand out or do we follow the general trend? This type of use of international comparative indicators requires not only methodological sound indicators (in terms of validity, reliability etc.) but it calls also for a thorough contextualisation of the indicator based information. Scores on indicators can be interpreted correctly only if national differences in the higher education systems and in policy goals and instruments are understood. In chapter two these goals and instruments will be described for the six cases studied. The higher education systems will be described in appendix 1.

1.2 Key concepts in comparing access policies and indicators

There are two concepts that need clarification and discussion up front: 'access' and 'higher education'.

1.2.1 Access

There are a number of issues regarding the concept of access that need to be clarified.

New entrants versus enrolment

Access to higher education may refer to the people who enter higher education (or the inflow into the higher education system). Access may also be used to refer to the number of people who have the opportunity to use higher education facilities (the students enrolled in higher education). The first interpretation of access will be referred to in this report as entry or access, the second interpretation as participation. Comparing access policies and its indicators, it is essential to clarify what interpretation of access is used.

Intent and age group

There are many motivations to access higher education that can be classified in a number of ways but for this project there is one divide that seems to be most relevant, i.e. degree orientation versus no degree orientation. Students/new entrants who are degree oriented strive for obtaining a degree as swiftly as possible, whereas

students/new entrants without a degree orientation are more interested in enhancing their competences for their personal development. This criterion is relevant in the underlying report because it can be used also to distinguish between two types of policy orientations (entry oriented versus output oriented)[1]. The criterion 'age', dichotomised here as young (following soon after the completion of secondary education) and mature, is in many cases closely related to the intent criterion. Combining age and intent results in a two by two 'frame' that is helpful in describing the focus of the report.

Table 1: Types of participation

	young	mature
degree oriented	A	B
not degree oriented	C	D

The primary focus is on the young degree-oriented access (A). Indicators and policies geared to life long learning (D) are not covered. However, the boundaries between the categories are not that clear, which may lead to a fuzzier categorisation and scope as suggested above. Institutional differences between countries and practical considerations may also lead to a further softening of focus.

1.2.2 Higher education

Defining what is included in the definition of higher education is a crucial issue in international comparisons. This issue has been discussed intensively over several decades but yet it remains a major challenge when comparing higher education systems.
OECD, UNESCO and the EU developed and use the International Standard Classification scheme for Education (ISCED97)[2]. Although this classification scheme has contributed tremendously to the international comparability of education systems, it did not end the discussions where post-secondary education ends and higher education starts.

The anchor point in the underlying study is the first degree program: in principle all analyses refer to this type of program. In all higher education systems there is a degree program that leads from first entry to a degree that gives access to the labour

[1] These policy orientations will be addressed in section 2.8
[2] For a detailed description of ISCED97 see
http://www.uis.unesco.org/ev.php?ID=3813_201&ID2=DO_TOPIC

market, and/or access into graduate programs. In Anglo-Saxon higher education systems this first degree is the bachelor. In European continental systems the situation is slightly more complicated. The first complication is the length of the programs and the second the types of higher education institutions, providing first degree programs. First degree programs in European continental systems are often longer than the British first degree programs and different types of first degree programs are provided by 'non-university' higher education institutions (like the Dutch *hogescholen* or the Finnish Polytechnics). In the Bologna process[3], European systems are gradually moving towards degree structures that are more comparable to the bachelor master structure. However, statistical information based on such a structure is not available yet, so the analyses presented here are still based on the old degree structures. Despite the complexity of making international comparisons of first degree programs, these programs will be the base of our analyses.

However, limiting the analyses to first degree programs would also curtail the policy relevance of the study. Given the growing range of alternatives and growing desire of policy makers to enhance the amount of transferability of courses between the various types of programs, it is important to highlight the growing role that programs below the level of first degree programs play in higher education access policies in a number of countries. Associate degrees in the USA are the most common example of this type of programming, but transfer and degree programming is increasingly common in Canada and the UK and has recently been considered as a policy option in the Netherlands (see chapter two).
Bringing in this type of programs is a tricky complication of the analyses: the demarcation between what is higher education and what is not is in these programs not always clear and it brings in providers that provide other types of (post-secondary) education services alongside higher education programs.
Participation in 'short programs' will be addressed in the report as well and scores on the indicators for participation including these programs will be calculated where possible, in addition to the scores based on first degree programs only.
That leaves us with the question how to determine what 'short programs' are part of higher education and what are not. In the report a number of criteria are used that are not fully mutually exclusive and that provide guidance in addressing the question. Using these criteria will not provide a definite authorative answer to the question but they may help to open up and clarify the discussion regarding participation in higher education programs below the first degree level. The criteria are:

[3] For an authorative description of the Bologna process and a recent presentation of the progress towards the objectives set, see http://www.bologna-bergen2005.no/

- Are the programs offered by educational institutions that provide first degree programs as well?
- Are the entry requirements (formal or de facto) similar to the entry requirements for first degree programs?
- Are the programs geared towards transfer to first degree programs and are credits obtained counted if graduates transfer to first degree programs?

What programs will be included as higher education programs will be discussed on a case by case base, using the criteria as a guideline.

1.3 Sources of information and scope

The statistical information comes from a variety of sources. The starting points are the national statistical databases. In all countries there is a wealth of statistical data on higher education publicly available, either on the Internet, or in paper publications. In some cases, the publicly available information is not detailed enough. The missing information is sometimes collected through special data requests and sometimes through interviews with national experts.
The report comprises also information from Eurostat, the statistical office of the European Union and the OECD. This information is used as a backup: wherever national data are missing, these data sources are used to complement the picture.

Information on the characterization of the higher education systems comes from national sources and builds, for the European countries, on the information available in the International Higher Education Monitor (IHEM)[4]. The policy related information comes partly from reviews of policy documents and partly from interviews with national experts.

The period covered in this report starts in the mid 1990s and, where possible, ends in 2004/05. The period for which relevant data and breakdowns are available differs between countries.

The report covers six countries:

- Sweden and
- the United Kingdom (UK) since these two countries are mentioned explicitly by the Dutch government as benchmarks

[4] The IHEMis an ongoing CHEPS project, commissioned by the Dutch Ministry of Education, Culture and Science, in which qualitative and quantitative aspects of higher education policy in ten Western countries are monitored. Detailed information can be found at: http://www.utwente.nl/cheps/higher_education_monitor/

- Finland, as a country with a very high rate of participation that is regarded by many as a shining example of an innovative and competitive (higher education) system
- the United States of America, as it is used in the European 'Lisbon process' as a world wide benchmark in economic competitiveness
- Canada, as another Northern American country with a high level of post secondary participation
- The Netherlands, as the basic reference country

1.4 Structure of the report

The report consists of three parts. The first part describes access policies in the six countries selected. In part two a number of indicators for the rate of participation are identified, calculated and evaluated (chapter 3). The final chapter is used to discuss some major observations.
In the appendices, relevant background information is presented. Appendix 1 comprises a characterization of the six national higher education systems. In Appendix 2, data are presented on the age distribution of new entrants and enrolment in higher education. Appendix 3 comprises data on graduation rates and in appendix 4, the sources contacted during the project are listed.

2 Higher education access policies

2.1 Introduction

Relation between access policy and indicators
The use of indicators in (higher) education policy is a phenomenon with a long history. There have been periods in which its use was promoted as an important tool in guiding improvement of education or as an instrument to show accountability for the use of public funds. There have also been periods in which the use of (performance) indicators was 'banned' because they give an overly simplified picture of the complex system education is or because they are feared to be used as instruments to limit the autonomy of institutions. In the first years of the new millennium, the use of indicators lives through a remarkable revival in Europe. In 2000 the European Commission adopted an ambitious strategy to become by 2010 '*the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion'*. Important element of that 'Lisbon'-strategy was the introduction of a new method of co-ordination: the Open Method of Co-ordination (OMC). Key elements in the OMC are indicators, peer pressure and peer learning experiences. Indicators are used to identify best performers and bad performers, who are 'peer-pressured' to improve their performance by learning from the best performing countries (European Council 2000).
The Lisbon strategy has lead many national governments to formulate quantified targets in a number of policy areas. Education is one of those areas. To monitor progress in achieving these targets indicators are needed. This need for indicators has lead to an increase in quantitative information available but it has also increased the confusion on how that information is derived and how it may be used. Such confusion is problematic if the targets the indicators refer to are cornerstones of (higher) education policy, as is the case with the 50% participation target in the Netherlands (see section 2.4), Sweden (section 2.5) and the UK (section 2.6).

The focus of this chapter is on public policies regarding access to higher education. Four issues will be addressed:
1. What are the objectives of access policies?
2. Are these objectives in any way quantified?
3. What indicators, if any, are used to monitor progress towards the objectives?
4. What instruments are used or proposed to achieve the objectives?

2.2 Canada

In Canada higher education[5] falls within the constitutional jurisdiction of the provinces. However, as in other federations, the central government has come to play major roles in support of higher education. It has done so in large part because of the strategic importance of these institutions in educating people for the knowledge economy and in performing research

Despite the Constitution's exclusive grant of powers to the provincial legislatures to "make Laws in relation to Education" – "In and for each Province" – the federal government in Canada has shown an interest in higher education since the early years of Confederation and especially, since World War I.

The overriding goal of federal investments in higher education, particularly since World War II, has been to maximize universities' contributions to economic growth, competitiveness and social development in Canada as a whole. To this end, the investments have sought:

- to support growth in institutional capacity to provide access to growing numbers of students;
- to promote accessibility for students through student assistance measures;
- to develop university research and graduate education and, especially in recent years, to build internationally competitive research capacity in the universities; and
- to promote Canada's interests internationally in relation to, and through, higher education.

The first of the above objectives, increasing universities' institutional capacity to take on more students, was at the heart of federal investments in the period from 1945 to 1967, first through direct grants to universities and then through the cost-shared program; and though less directly, they were one of the purposes of the EPF-PSE[6] transfers from 1977 to 1995. However, since the creation of the unconditional and undifferentiated CHST transfers in 1995[7], the federal government has paid little overt attention to this objective despite the fact that federal student assistance measures actually stimulate increased enrolment pressures on the operating budgets of universities.

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[5] The bulk of access policies in Canada does not refer to higher education but to the broader sector of post-secondary education. The difference between the two is highlighted in appendix 1.

[6] Established Programs Financing, post-secondary education portion

[7] For a brief introduction in the Canada Health and Scoial Transfer (CHST) system see http://www.fin.gc.ca/transfers/transfers_chst_e.html

In its 2002 Innovation Strategy the federal government described some overriding access policy objectives for the nation in the following way:

"To seize the opportunities before us, learning must be available to all Canadians throughout their lifetime, so that everyone has the opportunity to reach his or her full potential. It is in skills and learning that our economic and social goals find common expression. By providing opportunities for all Canadians to learn and to develop their skills and abilities, we can achieve our commitment to economic growth and prosperity and demonstrate our social values of inclusion and equality."

Milestones of the federal innovation strategy:

- Over the next decade, 50 percent of 25-64 year olds, including an increased proportion of individuals from at-risk groups, have a post-secondary credential (up from the current 39 percent).
- Admission of Masters and PhD students at Canadian universities increases by an average of 5 percent per year through to 2010.[8]

While provincial governments have signaled a desire to work with the federal government to address the issue of capacity in postsecondary institutions they do not frequently set out participation targets or goals. Like the federal government they tend to focus attention on the tremendous benefits that that completion of postsecondary education creates both for the individual graduate and for society as a whole. Recent policy statements of various provincial governments have focused attention on the need to expand the capacity of their postsecondary institutions to enable them to take on more students, sometimes with a very precise target for growth, although seldom with any specification participation target.

Several examples of recent policies are described below.

British Columbia

The Ministry of Advanced Education envisions a province where all British Columbians have affordable access to the best possible, technologically advanced, integrated, and accountable post-secondary education system. In the 2005 *Budget* the B.C government provided an additional $372 million in funding for post-secondary education, including fully funding the province's share of costs for 16,205 seats up to 2007/08 with an overall goal to add 25,000 seats by 2010.[9]

[8] Source: Knowledge Matters Human Relations and Development Canada

[9] Source: 2005/06 – 2007/08 Service plan, Ministry of Advanced Education

Alberta

Just prior to their 2005 provincial budget the Alberta government announced that a total of 60,000 new post-secondary spaces were to be created in Alberta over the next 15 years, which is expected to give Albertans the best access to post-secondary education in Canada. Advanced Education's mission is for Alberta to be a learning society where all Albertans have access to the opportunity to develop the learning, work and life skills they need to achieve their aspirations and maximize their potential to the benefit of themselves and Alberta.

There are currently about 140,000 full-load equivalent post-secondary students in Alberta. Over the next three years, 15,000 student spaces will be added, 30,000 after the next six years, and a total of 60,000 new spaces by 2020. The Alberta government will put in place the funding to support the additional student spaces.

Ontario Access, Enrolment and Outreach

The 2005 Ontario provincial budget announced the government's intention to make a significantly larger investment in postsecondary education to help increase enrolment in colleges and universities and to enhance the quality of the programs offered. Specifically it announced:

- The expansion of graduate education by 12,000 students in 2007-08 and 14,000 by 2009-10 through new investments of $220 million annually by 2009-10;
- Invest $95 million in new funding to increase the number of new, first-year medical education spaces by 15 per cent, and improve the quality of medical education;
- Increase the number of new annual entrants into apprenticeship by 7,000, reaching 26,000 total by 2007-08;
- Invest $10 million in 2005-06, rising to $55 million by 2009-10, to undertake new programs and outreach for under-represented groups such as francophones, aboriginals, people with disabilities and those who would be the first in their family to attend college or university;
- Provide $20 million in new funding for northern and rural colleges by 2007-08 to increase access to high-quality programs in their communities;
- Pilot a new, community-based nursing education program in northern Ontario; and
- Implement a new strategy to attract more international students and encourage study abroad for Ontario students. [10]

[10] Source: Reaching higher: the mcguinty government plan for postsecondary education, Ontario 2005 Budget

New Brunswick

The 2005 budget highlighted the growing acknowledgement of the value postsecondary education to the province's overall prosperity: "Education is recognized as key player in the future prosperity of New Brunswick,…as a government we recognize that the single most important factor in achieving prosperity is the quality of our workforce and we are determined to have an educated, well-trained, skilled and adaptable labour force to lead New Brunswick into a more prosperous future."

At the post-secondary level, the budget reflects a sixth consecutive increase in funding to universities in New Brunswick, with a 4.6 per cent increase in operating funding for 2005-2006. This means that operating funding to universities has increased by 24 per cent or by $38.3 million since 1999.[11]

Access policy at the Federal level is mainly aimed at the degree orientation, underlining the contribution a higher qualificied labour force will make to economic growth. The focus is not only on young people but aims at providing opportunities throughout the life time. Increasing the capacity is the most common access policy instrument used at the provincial level.

2.3 Finland

Finland has joined the group of countries that have a 50% target. This target does however not refer to participation in higher education, but to the educational attainment of the population. By 2015, at least 50% of the population aged 25 to 34 should have a tertiary education degree (in 2000 this percentage was 40%).

In addition to this general target, the Finnish government has set very specific targets regarding the number of new entrants. In the Development Plan (Ministry of Education 2004) the number of new entrants to be achieved by 2008 is specified by type of program and discipline. These targets are based on estimates of the Labour Department.

In these targets, the number of new entrants in AMK bachelor and University Master programs remain more or less the same, but entry in Open University and Open Polytechnic will be expanded.

Finnish 'access-policy' is not only focused on access; it also comprises targets regarding the throughput (time to degree and completion rate).

[11] Source: "Education a top investment priority / Ordinary budget estimates", Press Release May 24, 2005

Instruments proposed
To increase the completion rate and decrease the number of dropouts, as well as to increase national and international mobility, the Finnish government introduced a true two-cycle system in 2005, with a self-standing three-year Bachelor degree structure, and a two-year Master degree structure. By introducing a true two-cycle system it is expected that the value of the Finnish university first degree on the labour market will increase. Some professional degrees, i.e. veterinary science, medicine and dentistry will continue as six-year degrees. This change was based on a new University degree Decree that also regulates the transition from polytechnic bachelor degree holders to university master programs.
Additional instruments proposed comprise counseling, coaching, the development of personal study plans and remedial teaching. These instruments all aim at keeping students at risks on board. The development and implementation of these instruments is a task of the higher education institutions, that have also the responsibility to structure their programs in such a way that quick progress is possible (Ministry of Education 2004), p. 41).
Selection should also contribute to a proper allocation of new entrants, leading to a minimal drop out and time to degree.

2.4 The Netherlands

The Netherlands aims at a rate of participation in higher education 'in the direction' of 50% in 2010. This aim is in line with the targets set in the United Kingdom and Sweden (Ministerie van Onderwijs Cultuur en Wetenschappen 2004), p.24

HOOP 2004
In order to produce in the future a sufficient number of higher education graduates and to stay 'in-line' with other European countries, the rate of participation needs to grow. The Netherlands aims at a rate of participation of around 50% in 2010, which is in line with the British and Swedish targets.

The primary objective to formulate this 50% target was to ensure that in the complex society of the future sufficient higher educated people are produced and to ensure that the Netherlands keeps up with other European countries.

Instruments proposed
In HOOP 2004 a limited number of possible solutions to the problem are given, yet no clear instruments. Because the direct continuation rate from upper secondary education to higher education has almost reached its limit (around 80%), it was stated that it is imperative for the achievement of the 50% target to:

1. increase recruitment from underrepresented groups
2. Increase recruitment from upper secondary vocational graduates
3. Increase completion rates

This calls for a different access policy and more appealing programs

Ad 1: higher education institutions are invited to formulate ambitions to increase the inflow of ethnic minorities
Ad 2: Agreements have to be made between the *hogescholen* and the upper secondary vocational sector (MBO).
Ad 3: higher education institutions are invited to formulate ambitions to increase the completion rates

In a recent policy paper on the introduction of a new law on higher education the Ministry of Education, Culture and Science referred to an issue that may have an impact on access to higher education. It was proposed that barriers for co-operation between MBO and *hogescholen* would be lowered. This is assumed to more transfer from MBO to *hogescholen*. In contrast to this it was also proposed to limit the general eligibility of MBO graduates for access to *hogescholen*. Only those who graduated in similar subjects are proposed to be eligible for transfer. This way completion rates may be boosted.
In June 2005 two experiments were announced related to access. First experiments were announced with selection for high quality programs for exceptionally talented people. Higher education institutions may select entrants and raise higher fees for these programs.
The second experiment is the introduction of an associate degree at *hogescholen*. This two-year vocationally oriented undergraduate degree will be embedded in regular HBO-bachelor programs.

2.5 Sweden

The increase in enrolment was politically directed. After a period of strictly controlled access, the number of available places was opened up around 1990, which has lead to a strong increase in the number of applicants.
Although guaranteeing equal opportunities has been a main argument for expansion of the Swedish system, there have not been very many policy instruments that targeted young people from specific social background.

The 50 per cent target

In the autumn of 2001 the Parliament accepted a government bill on higher education. In this bill on open higher education, a broad array of policy issues is addressed: access, lifelong learning, vocation-oriented programs and degrees, ICT in higher education and steering and governance. [12]

A primary goal of the bill is to broaden recruitment and to open new paths to higher education. The government's aim was for half the young people in any given cohort to start higher education by the time they reach the age of 25.

Due to a constrained budget situation, the rate of expansion of the number of student places has been slightly reduced during 2003 and 2004. The government stays committed to the 50% target but underlines that it is a long-term goal[13].

Indicators for monitoring progress

The official indicator for monitoring progress is presented by the Statistical Office (Högskoleverket and Statistiska Centralbyran 2004). It is based on the number of people in the age group 17-25 years olds who live in Sweden and who have embarked on higher education. It includes also students who study or studied abroad and who received student support for that study abroad. This indicator is based on a 'true cohort' approach as described in section 3.4.3.

An alternative indicator is used by the National Agency for Higher Education (HSV) in its annual report on universities (Högskoleverket 2004). This indicator represents the sum of the net entry rates of students in the age group 17-25. The number of new enrolments in this indicator also includes guest students from other countries, in other words students from universities abroad who are studying for one or several semesters in Sweden under the aegis of exchange agreements between Swedish and foreign higher education institutions. It also included "free movers", students who have come to study in Sweden on their own initiative. The number of guest students has risen progressively and during the academic year 2002/03 it amounted to 10,500, or almost 13 per cent of all admissions. This indicator is calculated as a synthetic cohort indicator (see section 3.4.2).

The results of the indicators differ significantly, as shows Table 2. The official scores are significantly lower than the HSV scores and the trend in the official scores is smoother than the trend based on the HSV scores.

[12] source: Ministry of Education and Science, Fact Sheet U01.016, Reforms in higher education – a more open system, Summary of government bill 2001/02:15, November 2001

[13] Source: spokesman of the Regeringskansliet in his answer to questions posed for this study.

Table 2: Scores on two indicators for entry rates into higher education, Sweden

	Official			HSV
	Total	women	men	total
1998	37.1	41.5	32.8	40.7
1999	39.1	43.8	34.6	41.3
2000	40.5	45.5	35.7	42.7
2001	41.9	47.4	36.6	46.1
2002	42.3	48.5	36.3	48.0
2003	42.7	48.8	36.8	47.3
2004	43.7	50.2	37.5	

Source: (Högskoleverket and Statistiska Centralbyran 2004)

Note: 'official' refers to the indicator presented by the Statistical Office Sweden; HSV refers to the indicator used by the HSV.

A major part of the difference can be attributed to changes in the size of birth cohorts. This issue will be discussed further in section 3.7.2.4.

Instruments used/ proposed

In 2001, the Higher Education Act was amended. This reform has lead to a number of activities, of which a selection is described below.

Recruitment commission

A recruitment commission was set up in 2002, to stimulate recruitment activities at universities and colleges. Government provided SEK 120 million (€12.9 million) during the period 2002-2004 to the Commission to allocate targeted resources to infuse energy into the recruitment efforts of the higher education institutions. The activities of the Commission were concluded in Spring 2005[14]. The commission stressed the importance of continuous efforts to widen participation and the commitment of higher education institutions in this area. It underlined further that emphasis should be put on earlier stages of education.

Local action plans

After 2001, all higher education institutions have drawn up local action plans how to broaden recruitment. The first three-year period of action plans ended in December 2004 and government will evaluate the experiences. Higher education institutions were invited to develop these plans: government did not plan to 'punish' institutions that did not develop a plan.

In addition to the local plans, the National Agency for Higher Education (*Högskoleverket*) and Statistics Sweden have developed key indicators to monitor the

[14] see http://www.rekrytering.gov.se/slutrapport.pdf

effect of the efforts to widen participation. The indicators cover the period since 1993/94.

Admission and selection

There were a number of opportunities the 2001 reform provided to universities regarding admission and selection.

Preparatory courses were to be developed for those who lack specific qualifications for specific university programs. Higher education institutions have to report to the government annually how many students were enrolled in preparatory programs. 26 of the 39 public higher education institutions provided preparatory programs in 2003/04 and 54 different programs were offered. The total number of students enrolled was slightly more than 3500. This number has grown slowly since the higher education bill of 2001 was introduced.

Higher education institutions have also got the opportunity to offer **college programs**. The college programs are primarily aimed at pupils leaving an upper secondary education program that does not give them sufficient qualifications to proceed directly to most higher education programs or courses. These upper secondary education programs have a high percentage of pupils from families with a labour background. The primary aim of the college year is to widen participation. College programs are offered by half of the higher education institutions. The number of students enrolled is far less than in the preparatory courses. In 2003/04 approximately 400 students completed college year studies. A majority of them continued with higher education studies afterwards.

Yet another provision in the bill is the opportunity higher education institutions get to test **new ways of admitting students** (related to a maximum of ten percent of the new entrants). Government provided a one-time contribution of SEK 70.5 million (€7.55 million) to higher education institutions in 2001 for the development of methods for assessing prior and experiential learning. The higher education institutions have worked together to develop standards and principles to be used in the assessment of prior and experiential learning. The assessment is carried out by the higher education institutions themselves and the methods used varies between institutions (self-assessments, tests, etc.). It's up to the higher education institutions to evaluate whether the level of the non-formal qualifications of an applicant is sufficient to meet the admission requirement of a given course or program. In 2004 more than 5500 applicants asked to get their non-formal qualifications validated, which is around 1000 more than in 2003. Almost 1000 applicants were considered to meet the admission requirements for the program or course they applied for, although only around 300 applicants were admitted due to competition with other students. This kind of assessment procedures is still in an early stage of development. The higher education institutions consider it to be rather expensive and time consuming, which might explain why it's still not used to any large extent. Many applicants ask to get

their qualifications assessed, although a majority of them already meet the formal admission requirements, thinking that the assessment procedure is just another way to boost their chances in competition with other students. This was however never the purpose. In the 2001 reform, there was also some mention on alternative selection. Regarding alternative selection, the government is in the middle of clarifying on what terms the alternative selection can be used, taking into consideration the juridical aspects of non-discrimination. higher education institutions have so far used the alternative selection very modestly.

Role of higher education institutions
In all these instruments to widen/broaden participation, the higher education institutions have a relatively large responsibility. Government has opened a number of opportunities that the higher education institutions have to fill in. This is in line with the relatively large institutional autonomy. The higher education institutions normally don't get specially assigned money for general obligations. They are to be covered within the frames of the state block grants. Widening participation is such a general obligation.

Amendment of the Higher Education Act
Partly based on the results of the efforts of the Recruitment Commission and the experiences described above the higher education act will be amended, around Summer 2005.

2.6 UK

Access policy in the UK is dominated by two issues: the 50 % participation target and the goal to widen access to higher education.

The 50%-target
The 50%-target was announced at the labour party conference in 1999, when Prime Minister Tony Blair announced his aim to expand higher education so that 50 per cent of young people have the opportunity to benefit from higher education by 2010. In 2002, the government's white paper: "the future of higher education" (DES, 2003), was released. In this white paper the government restated its target regarding the expansion of higher education, but at the same time it underlined that it does not want to compromise on quality.

Motives for access policy
Expansion for the sake of contributing to the international competitiveness of the national economy in itself is not the only issue. Increasing social inclusion is a driving force behind the access policy that has got a major part of the exposure in the media.

The government finds that the social class gap among the participants in higher education remains unacceptably wide (DES, 2003). While many more people from all backgrounds benefit from higher education, the proportion coming from lower-income families has not substantially increased. Not only does this lead to a waste of potential for individuals and for the country as a whole, it is also socially unacceptable to leave large groups of underrepresented groups behind.

Indicators for monitoring progress

To measure progress towards the 50 per cent target, the Higher Education Initial Participation Rate (HEIPR) was developed. This indicator covers English-domiciled, 17-30 year old, first-time entrants to higher education courses, enrolling on courses expected to last at least 6 months. Entrants with prior higher education experience are excluded. It covers both full time and part time students. The HEIPR is defined as the sum of the 14 individual initial participation rates.[15]

Table 3: Higher Education Initial Participation Rates, England, in %

	men	women	total
1999/2000	38	43	41
2000/2001	38	45	42
2001/2002	38	46	42
2002/2003	39	47	43
2003/2004 (prov)	38	47	43

Source: (Department of Education and Skills 2005)

HEIPR is based on the situation in England. This does not represent the UK situation. The differences between the higher education systems of the four UK countries (England, Wales, Scotland and Northern Ireland) are reflected in Table 4 in which another indicator for participation (the API) is presented.

Table 4: Age Participation Index

	Great Britain	England	Scotland	Wales	Northern Ireland
1990/91	19	18	24	19	26
1991/92	23	22	28	21	28
1992/93	28	26	32	29	32

[15] The individual initial participation rate for age group X is calculated as the number of first-time entrants to higher education aged X years divided by the population aged X years.

1993/94	30	28	35	32	33
1994/95	32				
1995/96	32				
1996/97	33				
1997/98	34				
1998/99	31				
1999/00	32				
2000/01	33	32	45	28	45
2001/02	35				

Source: Department for Education and Skills
Note: The Age Participation Index for England is the number of English domiciled initial entrants to full-time and sandwich undergraduate higher education in the UK aged under 21 expressed as a percentage of the average number of 18- and 19-years-olds in the England population.

Although the scores on the HEIPR differ significantly from the API scores, it may be concluded that there are substantial differences between the UK countries regarding the rate of participation. Scotland and Northern Ireland have most likely met the 50% target some years ago, whereas England and Wales are still moving (slowly) towards meeting the target.

Instruments proposed to achieve the targets
The British government has set up two types of instruments to achieve the target: financial instruments, focusing on students and on higher education institutions, and changes in the educational structure, of which the creation of the foundation degrees is the most prominent example.

Financial incentives; student related
Full-time students who start their study in 2005, may be asked to make a contribution towards their tuition fees of up to around £1,200 for each year, depending on their income and that of their household[16]. They are expected to pay any contribution direct to the university or college at the start of each academic year. Students from lower income households will continue to receive help towards their fees, and those with a household income of up to around £21,000 will get all their fees paid for them by the Government. If the income is between around £21,000 and around £32,000, the student will get some help with his tuition fees. If the income is over around £32,000, the maximum fee contribution of around £1,200 a year is due. Those starting at university or college in 2005 (or who are treated as having started in 2005) will be

[16] Part-time undergraduate education has for long had differential fees. The recent reform does not affect this level of activity.

eligible for a non-repayable Higher Education Grant of up to £1,000 a year introduced for new students in 2004. The size of the grant depends on the income (max £1,000). Partial grants will also be available for students with a household income of between around £15,000 and around £21,000.
From September 2006 no full-time undergraduate student will have to pay fees before they start university or whilst they are studying. Instead, students will be eligible for a student loan for fees to cover these costs. This means that if students start their course on or after September 2006, they will not have to find the money before they start their course. From September 2006, new full-time students from lower income households will be able to apply for a non-repayable maintenance grant of up to £2,700 a year. Around half of all new full-time students are likely to be eligible for a full or partial grant.
Universities and colleges wishing to charge the maximum fee of £3,000 a year for a course (see below) will have to provide at least £300 a year in non-repayable financial support, such as bursaries, to students on these courses who are receiving the full £2,700 maintenance grant. This means that students who receive the full maintenance grant and who are on courses charging £3,000 will get a package of non-repayable support of at least £300 a year. Some students will get more than this, as many universities and colleges are expected to offer financial help worth more than £300. The offers by the institution may vary.

Financial incentives: higher education institution related
Since higher education institutions decide who they admit, the government needs their cooperation to achieve its targets. The most effective way to ensure their cooperation is through the purse. There has been an enormous debate on it, but as the plans are today, universities in England will be allowed to vary the fees they charge new students from September 2006 on. Universities may charge between zero and £3,000 per year. Fees will not rise by more than the rate of inflation before 2010 at the earliest. Variable fees will only affect students who start their course in September 2006 or later. Existing students will not be asked to pay variable fees. This increased opportunities for higher education institutions to expand their financial income has however a (access policy related) catch. The Higher Education Act (2004) allows the institutions to set their own fees, but at the same time it enabled the creation of the office of fair access (OFFA) to see to it that higher tuition fees do not negatively affect access to higher education for lower social economic groups. Any institution that intends to charge tuition fees above the standard level (above £1200 and up to £3000) will need an access agreement approved by the Director of OFFA.
An access agreement will cover a period of up to five years. It could be a short document setting out the fee limits an institution intends to set, the measures it intends to take to safeguard and maintain fair access, and the milestones it will set itself around fair access. The Director of OFFA can impose sanctions on any institution that

breaches its own Access Agreement. In the event of a serious breach OFFA may refuse to renew an institution's Access Agreement or impose a direct financial penalty. An institution's failure to meet milestones is not in itself grounds for any kind of sanction. It is however expected that institutions will themselves want to review their progress against their own milestones when an Access Agreement comes up for renewal (DfES, 2004).

Structural instruments

The main instrument in expanding higher education in England and Wales is the expansion of participation in foundation degrees17. The Foundation Degree is a qualification with a degree title, which can be achieved in two years' full-time study or the equivalent part-time. It is normally delivered through Further Education College and Higher Education Institution partnerships (franchising). It has employability objectives that require the sustained involvement of employers, and defines a core role for work-based learning.

The ambitions government had for the Foundation degree are stated in the White paper: The Foundation Degree, as the 'major vehicle for expansion', will 'help to radically improve the delivery of technical skills' and play a key role in modernising both private and public sector work forces', by addressing skills shortages at the associate professional level. Employers will play an important part in designing Foundation Degrees – bringing about a step change in the way employers are involved with the undergraduate curriculum. Supported by the creation of the new national body, Foundation Degree Forward, further and higher education providers will be encouraged to develop close and supportive partnerships to strengthen the contribution of the Further Education sector to expanding opportunity and developing diversity in higher education provision.

The Foundation Degree is distinctive not least because it gives credit for learning through engagement with employers and in employment practice, in addition to learning through more conventional academic study[18].

A second structural instrument is the creation of better pathways for progression. A 'traditional' way of providing access opportunities to those who do not have the standard A-level examination are the access courses. Since 1989 these courses are an approved and recognized alternative route to higher education. More recently the HEFCE encourages the creation of widening participation partnerships between higher education institutions, further education colleges and secondary schools. Such initiatives are backed up by the efforts of a national coordination team (Action on Access) that has responsibility for a unified outreach program in England (Aim

[17] The first foundation degree courses began in September 2002

[18] For further information see http://www.foundationdegree.org.uk/docs/dfes_task_force_report.pdf

Higher[19]). Raising participation and standards in the reforms of secondary and further education are other options discussed to improve access

As mentioned above, there are marked differences in the rate of participation between the UK countries. Such differences can be found also in the access policies, especially between England and Scotland.
First of all there are some structural differences. First-degree programs in Scotland are four years, whereas they are three years in England. The 'standard' age on entry in Scotland is however one year younger than in England. In England most of the 'other undergraduate' programs are provided by universities (or awarded by universities and provided by Further education colleges). In Scotland, the bulk of 'other undergraduate' programs is offered by the further education colleges. Partly because of these structural differences, the Scottish executive has stated that there are no plans in Scotland to go down the route of foundation degrees. The Scottish HNC/Ds function as an exit qualification and a transfer qualification. The same is true for England. Previously, these short-cycle sub-degree vocational qualifications functioned largely as exit qualifications for local, regional and sometimes national labour markets.

2.7 USA

There is a general commitment to broadening access, but the diversity of the 50 higher education systems and the multiple sources of authority have prevented a nationwide approach. Within most states there are no targets set to meet participation rates equivalent to the UK, Sweden or the Netherlands; only general statements of a desire for some form of broad representation of all groups in public higher education ((Douglas 2005), p 102).

[19] http://www.aimhigher.ac.uk/home/index.cfm

Instruments used[20]

The three major vehicles that policymakers and educators use to expand access are

- financial aid,
- college admissions criteria and policies, and
- financial resources to support the demand for instruction.

Beginning with the Veterans Readjustment Act in 1944, followed by the initial Higher Education Act of 1965 and subsequent reauthorizations, the national government has provided leadership for expanding student access to higher education. The principal tool has been financial aid for individual members of targeted groups. The groups have included veterans of military service and economically disadvantaged students, and to a lesser extent women and underrepresented minorities. The fifty states and their individual colleges and universities have chimed in with the national government by launching their own initiatives to expand student access. Their levers for expanding access have included building new campuses primarily during the 1960s and 70s to accommodate more students and establishing student financial aid programs, some of which are modeled after those of the national government. In the southern states, and a growing number of other states, the Federal Courts have played a role in student access to college. The courts have often debated and decided on issues that affect resource allocations to support access.

Individual colleges and universities have also advanced the student access movement by establishing either flexible or open admissions policies.

Student access to higher education has multiple meanings and little attention has been given to constructing adequate measures for assessing the quality and efficiency of the programs and policies that are instituted to achieve greater access.

2.8 Summing up

The policy contexts within which policies regarding access and participation were developed differ between the countries. We distinguished three orientations in those policy contexts:

1. Access orientation; providing young people the opportunity to obtain a higher education experience or a higher education degree
2. Capacity orientation; influence the capacity of the higher education system to provide higher education to as many (young) people as possible

[20] Based on :

Nettles, M. T., L. W. Perna, et al. (1998). Research questions and data resource needs for examining student access to higher education. Reconceptualizing access in postsecondary education, report of the policy panel on access. NPEC. Washington**:** 35-56.

3. Productivity/ production orientation; producing as many higher education graduates as possible.

In most countries elements from all three orientations could be found in current national access policies. In the UK, the access orientation has been central with the capacity orientation (expanding foundation degrees) as a way to achieve that primary goal. In Sweden there is a mix between the first and the third orientation; providing access to underrepresented groups has a value in its own, but it also has to contribute to a better output and a stronger Swedish position on the world market. The Dutch and the Finnish policies have a stronger focus on the production of higher education graduates. Access policies in Canada and the USA differ substantially between provinces / states. There are general statements made on increasing the capacity of the systems and widening access to underrepresented groups. Quantitative targets regarding the expansion of access and participation in higher education are set in four of the six countries (the UK, Sweden, Finland and the Netherlands).

Higher education institutions have or are getting substantial responsibility for the implementation of access policies that are formulated (in general terms) at the national level. The role of national government is strongest in Finland where detailed targets are set. In Sweden, and to a lesser extent the Netherlands, national government has developed initiatives that facilitate higher education institutions in implementing access policies. The operation of OFFA in England has put some strains to the autonomy of higher education institutions.

3 Indicators on rates of entry and participation

3.1 Introduction

The goal of this chapter is to identify indicators on the rate of participation in higher education that are either used by (inter)national agencies or that the authors think will broaden the view on how rate of participation may be measured. In addition, the scores on the indicators identified will be calculated and compared across the six countries where possible. The chapter will be concluded with an evaluation of the indicators. We start with a short history of the use of indicators for participation in higher education in international comparisons.

3.2 A short history: indicators on rates of participation in international comparisons

International measures of higher education participation have always been of great interest to policy makers. The processes of massification, started in the 1950s in the USA and followed in many European countries in the late 1960s and 1970s continue to be a major driving force in (higher) education policy. Human capital theory has forged a strong link between massification and economic development, moving participation up on the political agendas. Despite this high relevance of the participation issue, the measures to inform policy in this respect in an international comparative way have developed slowly. Problems with the availability of relevant data and large differences in institutional settings have made it difficult over the years to identify, calculate and use appropriate indicators.

In the 1970s and 1980s, the first international comparative statistics on rates of participation were published by UNESCO based on a, even nowadays common idea that participation rates compare the number of students in a particular age group to the population in the same age group. Over the years, data constraints have led to different types of participation measures. Indeed, one of the early problems had been that many countries were unable to provide age specific enrolment data so that rather than comparing students and population in the same age group, these countries had to compare their total student population, in all age groups, to a narrower population age cohort, often comparing to the 18 to 24 age cohort. UNESCO published such gross

enrolment rates in their annual Statistical Yearbooks and even today, they present the scores on this indicator on their website[21].

There were several concerns regarding the utility of computing participation in this way. Many centered on the problem of including students in the rate who are outside the 18 to 24 population age base. Partly due to institutional differences, there are considerable differences between countries regarding the proportion of the student body outside the 18-24 year cohort. In some countries the portion of students older than 24 was quite significant whereas in other countries a significant portion of students had already completed their first degrees before the age of 25. Institutional differences may lead to either overcounting (like in Canada and the USA where there were relatively many older part-time students, but it was increasingly clear that European nations like Sweden, Austria and Germany also have a very significant portion of students studying well beyond the 18 to 24 age standard), or undercounting. These concerns sparked improvements in data collection. Beginning in the early 1990s the reporting of age specific enrolment to the OECD improved dramatically, and by the mid 1990s the OECD reported separate higher education participation rates for the 18 to 21, 22 to 25 and 26 to 29 age cohorts (OECD 1998)

Table 5: Net enrolment in public and private tertiary education for persons 18-21 years of age, by type of tertiary education (based on head count), 1996, in percent

	Non-university tertiary education	University-level education	total
Canada	17.3	23.1	40.5
Finland	4.8	13.3	18.2
The Netherlands	-	24.0	24.0
Sweden	-	13.7	13.7
UK	4.7	22.2	26.9
USA	12.9	21.7	34.6

Source: OECD, Education at a Glance 1998, table C3.3

Note: the net enrolment rate for the 18-21 age group is calculated as the number of students within the 18-21 age group divided by the population within the 18-21 age group.

Although this indicator was a more accurate indicator of the rate of participation then the UNESCO indicator it still had some major flaws that made it difficult to use the scores in an international comparative setting. The flaws all relate to the differences in the educational systems:

[21] http://stats.uis.unesco.org/TableViewer/tableView.aspx?ReportId=47

- students can enter university at various ages 18, 19 or 20 years or even later;
- the duration of programs can range from 3 to 6 years; and
- students can stop-out of their program before graduating or switch to enrol in different programs.

For all these reasons it was decided that Education at a Glance would no longer show participation data for any of the grouped age cohorts. The OECD last published participation rates for the 18 to 21 student cohort in the 1998 edition, based on 1996 data (see Table 5).

In the 1997 version of *Education at a Glance*, two 'new' indicators were presented:

1. the net entry rate to (university-level) tertiary education and
2. the expected years of tertiary education for all 17 year-olds.

The net entry rate identifies the proportion of young age cohorts that will enter higher education during his or her lifetime. It is calculated as the sum of entry rates for specific age groups, which are obtained by dividing the number of new entrants of that age by the total population in the corresponding age group. A more detailed description can be found in section 3.4.2.

The expected number of years for which 17 year-olds will be enrolled in tertiary education is a measure for both participation in tertiary education and the duration of tertiary studies. It is calculated as the sum of net enrolment rates for persons aged 17 and over (divided by 100). [22]

Both indicators were presented as indicators for participation in higher education. In the executive summary of Education at a Glance 2004, it is stated that participation has grown from 1995 till 2002 in almost all countries, referring to the table with the scores on expected years. This indicator is an odd indicator because of its limited face validity: it is hard to understand (at first glance) what the scores mean. The scores range between 1 and 4.5 (2002). A score of 4.5 means that all 17 years olds are expected to be 4.5 years in higher education. Since not all 17 year olds enter higher education, the expected number of years that those 17 years who do enter higher education will be higher. Technically it is not an indicator for the rate of participation because it combines the rate of participation with the average time students are enrolled in higher education. It becomes even more confusing when looking at the data the conclusions are based on, which is the level of enrolment in tertiary education. Clearly, OECD has not yet found the unproblematic indicators for participation.

UNESCO and OECD are the only international organisations that publish information on rates of participation or related indicators on a regular basis. Eurostat, the statistical agency of the European Union, does not publish a rate of participation in

22 $\frac{\sum_{i=17}^{70} \frac{\text{students age i}}{\text{population age i}}}{100}$

higher education. In their on-line database, there is some information on net rates of participation in higher education (ISCED 5) for a number of age groups, but a total score is not available. In the Commission staff working papers (European Commission 2004; European Commission 2005) participation rates are presented for education (ISCED 1-6), but no breakdown by educational level.

3.3 A new array of indicators

The diversity of indicators used by international organisations and the diversity in national policy settings (see previous chapter) and higher education systems (see appendix 1) put policymakers in a difficult position to decide what indicators to use and how to use them. In the meantime, the policy questions regarding relative levels of participation and access have become more and more interesting for (inter)national policy makers. The growing international embeddedness of the knowledge societies and economies has moved the policy relevance of indicators for participation in higher education higher on the agenda.

To fulfil the need for quantitative information on participation in higher education an array of indicators will presented in the section below. It comprises indicator definitions used by international and national organisations as well as a number of alternative measures. These alternative or 'own' indicators are defined and used to cover aspects that, in the eyes of the authors, are not covered by the existing indicators. Based on statistical data from both national and international sources, the scores on all these indicators will be calculated (as far as the data available allow) for the six reference countries.

The categorization of indicators is based on the aspects of access as described in section 2.8. The first type of indicators refers to the initial access or entry to higher education. The second type refers to the enrolment based participation indicators. The third type of indicators (graduation based) will be presented because the previous indicators do not cover a policy context that has emerged from chapter two, i.e. the link between access policy and the economic competitiveness of the labour force.

Entry rate indicators

The entry rate indicators serve to inform the 'access to higher education' policy context. The indicators show the opportunities young people have and take up to start participating in a higher education program. The indicators differ in the range of age groups they incorporate and because of that in the intent with which students take up a higher education program.

Four entry rate indicators will be presented:

1. Entry rate indicators, based on synthetic cohort analysis, using the 17-70 year age band (as used by OECD)
2. Entry rate indicators, based on synthetic cohort analysis, using the 17-30 year age band (as used in England)
3. Entry rate indicators, based on synthetic cohort analysis, using the 17-25 year age band (as used in Sweden)
4. Entry rate indicators, based on 'true' cohort analysis (as used in Sweden)

Indicators on rates of participation

These indicators are based on enrolment data. The participation indicators presented here differ in scope. Two sub types are distinguished: initial participation indicators and extended participation indicators.

Initial participation indicators

5. Initial participation indicator – calculated as the number of full-time undergraduate students in the first four years after completion of the required secondary (college) education divided by the population in the corresponding age group. The specific four-year age can vary by country, but it is always the four consecutive ages with the most students which helps to account for differences in the typical age at commencement of university study.
6. Varying pathway indicator: including part-time undergraduate students from the same youth groups included in the initial participation cohort described above.

Extended participation indicators

In some countries the duration of the first degree extends well beyond the 3-4 year bachelor's programs typical of North America, the UK and Australia/New Zealand. Even in these latter countries, professional degree programs are typically longer in duration and often require some university study or even the completion of a bachelor's degree. Moreover, in many countries the actual average duration of study is significantly longer that the ideal program duration – for students studying full-time with no gaps of missed courses.

The two indicators presented in this section are influenced by the extended length and time to degree in a different way.

7. A high score on the 'extended participation indicator' may be caused by a high level of initial participation and/or by a long average length of programs or time to degree. The extended participation indicator is calculated by extending the age cohort to include the first seven years of study.
8. In the corrected sum indicator, the average length of programs and average time to degree is part of the formula. A high score may be caused by a high level of access or a short average length of programs or time to degree. The scores on this indicator can be calculated by summing the individual rates of participation at

each age then dividing that summation by the average duration of study for undergraduate students.

Output/outcome indicators

The graduation indicator is not an indicator for participation in the strict sense. It may be added to the set of indicators to cover the third policy context: the productivity context. In that context it is argued that the primary function of higher education is to educate and train young people and to certify that education and training with a degree. This output of the higher education system is an important input for the quality of the labour force, raising the level of educational attainment.

9. Graduation rate: proportion of an age group cohort obtaining a higher education degree.

3.4 Entry rate indicators

3.4.1 Entry rates

Indicators on entry rates are, not surprisingly, based on new entrants. The indicator identifies what part of the population has got the opportunity (and taken it) to embark on higher education. Whether they all use this opportunity to complete a degree is not relevant here.

The key concept of the net entry rate is new entrant. A new entrant is a person who is new to higher education. Any person who has had prior experience in higher education (dropped out a course, got a few credits, completed a (short) program, switched institution or type of institution etc.) is not included since (s)he was counted when (s)he entered higher education for the first time.

One of the faults of this type of measure is that it does not differentiate access by intent. It equates all types of access whether it is the first-time participation of retired adult taking a single course or that of a recent secondary graduate who is embarking on full time study. That is the reason why the indicators presented here differ in terms of the age groups covered. The broader the age range, the more difficult it is to interpret this indicator. In addition, the scope has an impact on the feasibility of the indicator: the broader the age range the more difficult it is to get the data to calculate the indicator.

There are two types of net entry rate indicators, leading to different results. Indicators of the first type use synthetics age cohorts whereas the second type indicator uses a 'true' cohort approach.

3.4.2 Net entry rates: synthetic age cohorts

Name	Net Entry Rate indicator
Rationale	This indicator indicates what part of the population has got the opportunity to embark on higher education. Whether they have any intention or possibility of using the credits gained to make progress towards a degree is not relevant in this indicator.
Base	Number of first-time students in higher education (new to higher education)
Formula	$\sum_{i=17}^{y} \frac{(\text{new entrants aged i})}{(\text{population aged i})}$ where y is the upper limit of the age band included
Data-sources	National statistics on new entrants, broken down by age-group and level of education, excluding those new entrants with a prior higher education record, population, broken down by age group
Source	OECD, Education at a Glance HSV Dfes

The net entry rate is the sum of entry rates for specific age groups, which are obtained by dividing the number of new entrants of that age by the total population in the corresponding age. A pragmatic way to calculate this rate is the use of a so-called synthetic cohort. Instead of using longitudinal data, following cohorts through time, a snapshot is taken of the number of new entrants and population in a given year to calculate the entry rate at that particular moment. The advantage of this approach is that the data needed are available in many countries, although they are not readily available in most of these countries. Standard statistics on new entrants are reported in several countries as new entrants to certain types of higher education institutions or programs, but the data providers are in most cases able to filter out (most of) this double counting. The major drawback of this method is that it is sensitive to changes in the age structure of both the population and students entering higher education (see section 3.7.2.4).

As mentioned above, the coverage of the entry rate indicator in terms of age group has an impact on the interpretation of the scores. To illustrate this, three variations, used by international or national agencies, are presented below.

OECD

OECD uses the full range of age groups (17-70 years olds) to calculate the net entry rate.

Table 6: Net entry rates in tertiary education, by type, OECD definition

non university	Canada	Finland	the Netherlands	Sweden	UK	USA
1998	m	0,12	0,01	M	0,27	0,14
1999	m	a	0,01	0,05	0,28	0,14
2000	m	a	0,01	0,07	0,28	0,14
2001	m	a	0,02	0,06	0,29	0,13
2002	m	a	0,01	0,06	0,27	x
2003	m	a	0.01	0.07	0.30	x
university	Canada	Finland	the Netherlands	Sweden	UK	USA
1998	m	0,58	0,52	0,59	0,48	0,44
1999	m	0,67	0,54	0,65	0,45	0,45
2000	m	0,71	0,51	0,67	0,46	0,43
2001	m	0,72	0,54	0,69	0,45	0,42
2002	m	0.71	0.53	0.75	0.47	0.64
2003	m	0,73	0,52	0,80	0,48	0,63

Source: OECD, *Education at a Glance, various editions, table* C2.1

Notes: m: data not available; x: included in university; a: not applicable
Non-university refers to tertiary-type B; university refers to tertiary type A

The data presented here are published in consecutive editions of *Education at a Glance*. OECD does not present time series and one of the main reasons for that is that data reporting to OECD occasionally changes, making comparisons with previous years troublesome. The table above shows some major discontinuities (Finland 1999; Sweden 1999, 2002 and 2003; and USA 2002) that cast some doubts on the reliability of this indicator in this particular setting. Data on new entrants (by age) are not available for Canada.

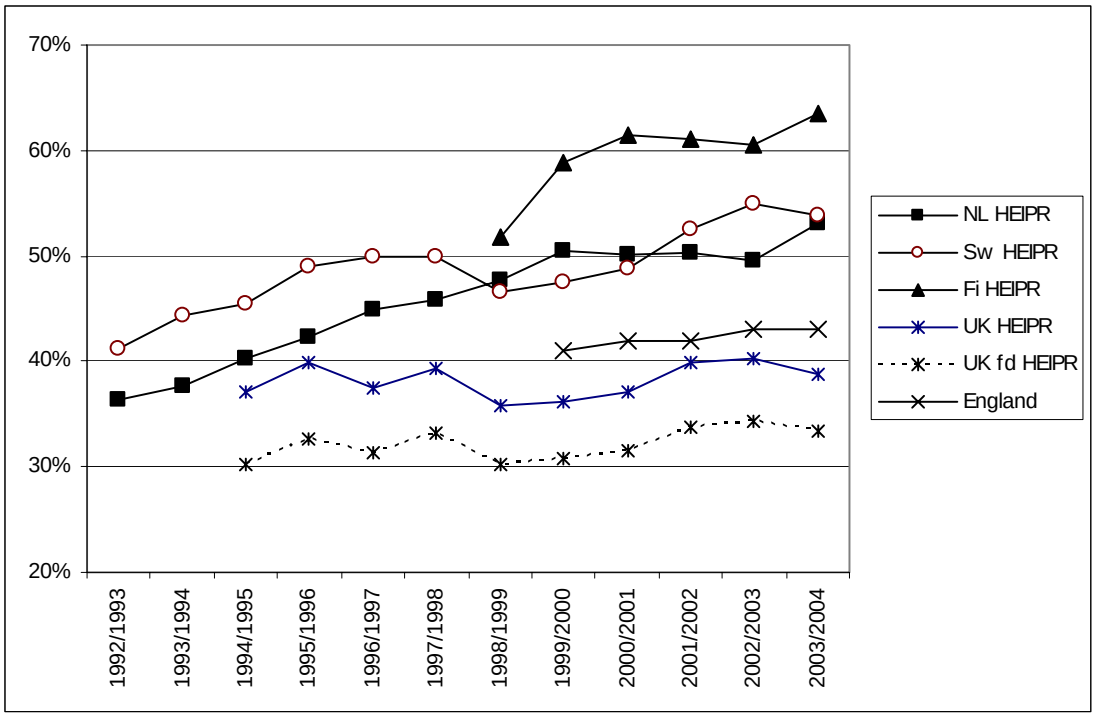
The strong growth in Sweden is also due to strong downward fluctuations in the age structure of the population (SCB 2004, p. 43): in absolute terms entry has grown but the decrease of the reference group has multiplied that growth in the net entry rate.

DFES age group

The English DFES uses a more limited reference group (17-30[23]) to calculate its Higher Education Initial Participation Rate (HEIPR). The scores indicate the proportion of the population that has had access to higher education by the age of 30.

[23] The English indicator (HEIPR) is explained in the previous chapter in detail.

Figure 1: Rates of participation, according to the HEIPR definition, in four countries



sources: NL: CBS Statline; Finland: Eurostat; Sweden: Statistics Sweden; UK: HESA

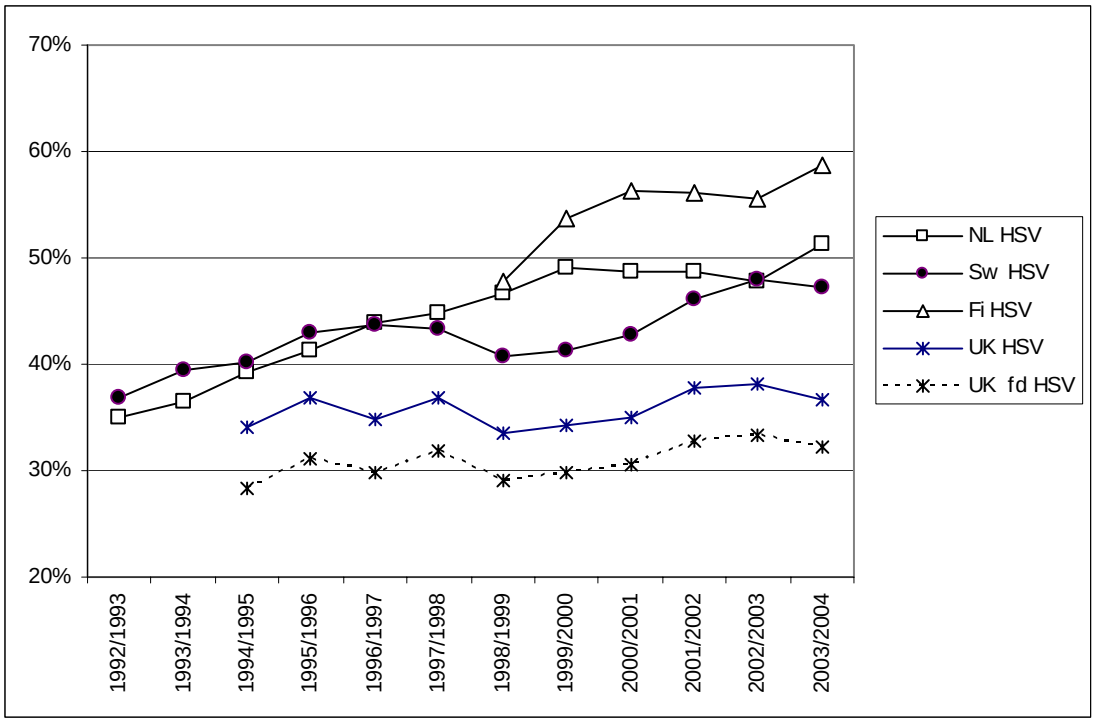
note: HEIPR (Higher Education Initial Participation Rate, UK): Synthetic age cohort method, reference group 17-30 years olds
UK: undergraduates; UK fd: first degree program only
England: official statistics for England undergraduate

HSV age group

The most limited reference group is used by the Swedish National Higher Education Agency (HSV) that presents an indicator based on the age groups from 17 till 25 years old (Högskoleverket and Statistiska Centralbyran 2004). The scores indicate the proportion of the population that has had access to higher education by the age of 25.

The scores on the DFES and HSV age group are presented in Figure 1 and Figure 2. They are based on national statistics on new entrants to higher education. Since entrants with a previous higher education history are netted out, overall scores could be calculated.

Figure 2: Rates of participation, according to the HSV definition, in four countries



sources: NL: CBS Statline; Finland: Eurostat; Sweden: Statistics Sweden; UK: HESA

note: HSV (Swedish higher education Agency): Synthetic age cohort method, reference group 17-25 years olds
UK: undergraduates; UK fd: first degree program only
England: official statistics for England undergraduate
Canada and the USA are not included because data on entry new to higher education broken down by age are not available.

The scores using the HEIPR definition are higher than the HSV based scores, as could be expected. In those countries where entry on a later age is more frequent (Sweden and Finland, see appendix 2) the differences between the scores on both indicators are larger than in the other countries.

In addition to the level of participation, policy makers need to be informed on the changes in those scores as well. The results of the English and the Swedish indicators convey similar messages: participation has gone up since 1998 in Finland, Sweden and the UK but in the latter two, the last year, the rate of participation is heading the 'wrong' way. In the Netherlands the decrease in entry rate from 2000 till 2002 has been 'compensated' by a strong increase in 2003.

Concerns

The major concerns with these indicators are

- the possible ambiguity in interpretation, especially of the OECD indicator,
- the extensive data requirements, again especially of the OECD indicator and

- the sensitivity of the scores for fluctuations in the size of relevant age groups in the population.

Conclusions regarding the use of this indicator
When using these indicators trend data on the size of relevant age groups in the population should be taken into account as well. When using the OECD definition, the different interpretation (much more life long learning elements) should be stressed.

3.4.3 Entry rates based on cohort analysis

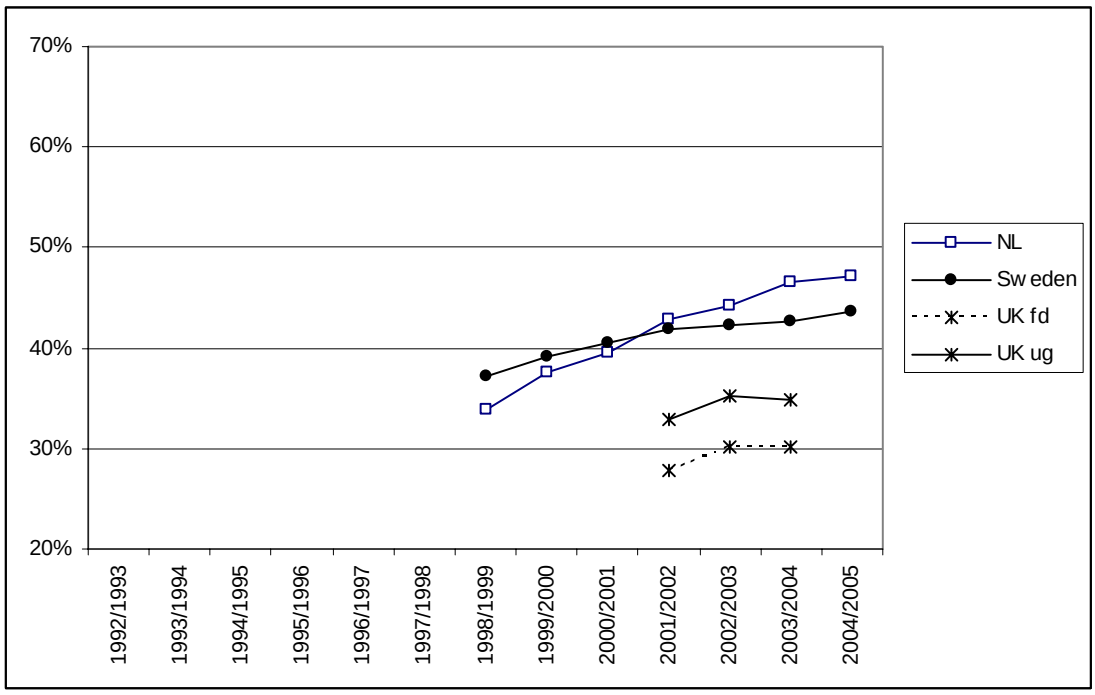
Name	Net Entry Rate indicator
Rationale	This indicates what part of the population has taken the opportunity to embark on higher education. Whether they all use this opportunity to complete a study is not relevant here.
Base	Number of first-time students in higher education (new to higher education)
Formula	$\sum_{i=0}^{y-z} \frac{(\text{new entrants aged } y-i)_{t-i}}{(\text{population aged } y-i)_{t-i}}$ with y=upper bound of age band and z=lower bound of age band
Data-sources	National statistics on new entrants, broken down by age-group and level of education, excluding those new entrants with a prior higher education record, population, broken down by age group
Source	Statistics Sweden

The second way to calculate entry rates, in addition to the synthetic cohort approach, is the 'true' cohort approach. The main difference with the synthetic cohort approach is that the latter is based on a one year snapshot, whereas the 'true' cohort approach follows the cohorts through time[24]. This requires detailed time series data on new entrants by age and population by age.
To calculate the scores according to 'true' cohort approach new entrants and population data broken down by age have to be available for a long period of time (for the 17-25 reference group eight previous years and for the 17-30 reference group 13 previous years). The only countries for which data on such long periods are readily available are Sweden, the Netherlands and the UK.
The results for Sweden in 2001 and 2002 are significantly lower than the results of the synthetic approach, as used by the HSV (42.3% versus 48%). The 'true' cohort

[24] E.g. to calculate the entry rate in 2003 you take the new entrants aged 17 in 2003 and divide it by the population aged 17 in 2003; take the new entrants aged 18 in 2002 and divide it by the population aged 18 in 2002, etc. and at the end sum all ratios. For calculating the entry rates based on a synthetic cohort only 2003 data would be used.

approach does also result in a lower score in the Dutch case (46.6% versus 51.2%[25]) and in the UK (34.9% versus 36.6% for undergraduate and 30% versus 33% for first degree). These lower scores are due to the decrease of the young age groups in the early 1990s (see Figure 23)[26].

Figure 3: rates of participation, using the true cohort net entry rates



Concerns

The only concern with this indicator is the feasibility.

Conclusions regarding the use of this indicator

This indicator transmits a clear message regarding access into higher education. When the problems regarding the availability of data are resolved, this indicator can be seen as recommendable.

[25] 2003

[26] The synthetic cohort approach looks at the age structure of a recent year, that have less young people in it than the ones from the early 1990s. Since the 'true cohort' approach takes those earlier age structures into account as well, the denominator in the formula will be relatively large, leading to a lower score.

3.4.4 Initial participation

Name	Initial participation indicator
Rationale	The indicator is designed to highlight the proportion of youth who have an opportunity to enrol full-time in higher education study. It may help policymakers to identify which countries are providing relatively more opportunities for youth to access higher education or where youth are taking up the opportunities provided
Base	Full-time undergraduate enrolment in higher education
Formula	Sum of the number of students in the four largest age groups in enrolment divided by the sum of total population in corresponding age-groups
Data-sources	National statistics on enrolment, broken down by age-group, level of education and mode of enrolment; population, broken down by age group
Source	Herb O'Heron, AUCC

The use of data on new entrants to calculate the scores on initial participation indicators instead of enrolment seems to be an obvious choice. However, the problems regarding the data requirements and interpretation of the results lead to a search for alternative, enrolment based indicators that may capture the phenomenon of initial participation as well, with less of the problems described above.

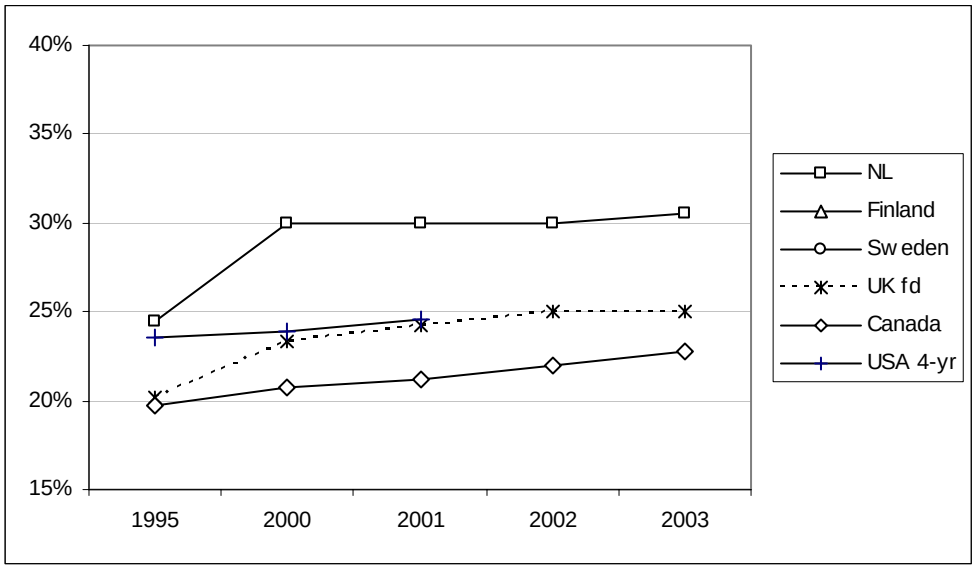
The first enrolment based indicator presented here is the initial participation indicator. This indicator is easier to interpret because it is limited a very narrow age range and only to full-time students, making it more acceptable to assume they enrolled to pursue degreee completion. In a number of systems, full-time study reflects a different degree of commitment and potentially aspiration on the part of the student and on the resources required in the system to meet the needs of the student. The indicator is designed to highlight the proportion of youth who have an opportunity to enrol full-time in university study, providing a very significant opportunity to make more rapid progress towards the completion of a first degree.

While the initial participation indicator only counts students in the four years with the highest enrolment levels, it should not necessarily under-represent relative access/participation rates for youth in countries where the first university degree programs have a longer duration. These same students are the students who have access throughout the first four years of study as well as into the later years of their first degree programs. While the extra years of study may limit the ability of their

respective systems to expand to meet greater demand this measure does not misrepresent the relative participation in their systems.

The highest four years of enrolment were also used to match the four years of study in the traditional 18 to 21 comparison group, not to simulate the length of a program. This 18-21 comparison group was used by OECD in previous editions of *Education at a Glance*.

Figure 4: Rate of participation in first degree programs, initial participation indicator



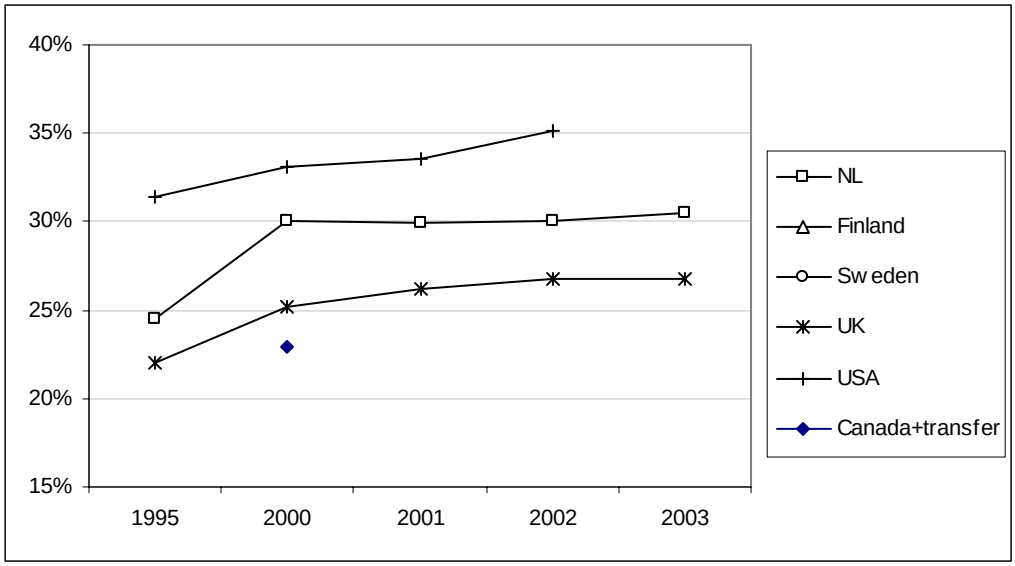
note: part time enrolment is not possible in Finland and Sweden. Although full time students may spend considerably less time on their study as a 'true' full time student, but the official Finnish and Swedish statistics do not break down enrolment data by mode or enrolment[27]. Because of this full-time students cannot be singled out for these countries which makes the calculation of this indicator for these countries not relevant.

The participation rate is highest in the Netherlands and lowest in Canada. The level in the USA and UK was similar in 2001. Participation in Dutch higher education has grown relatively strong in the 1995-2000 period, but in the new millennium it has stabilised. In the UK participation in first degree programs has grown significantly as well, but at the end of the period, growth has leveled of. The situation in Canada can be characterised as a steady growth of participation in higher education.

[27] For the provision of data to the OECD, approximations are made to split out part-time students. In Sweden, every student who does not complete a full year of credits is reported to OECD to be a part time student. This leads to a very large proportion of part time students. For Finland a similar situation arises.

If a broader view of higher education is used so as to take into account short programs as well, the rate of participation is considerably higher in the USA. Adding participation in sub-degree programs in the UK leads to a higher score but the gain is not very spectacular. In Canada there are also a number of students enrolled in university transfer programs at colleges, who should be counted if the broader view on higher education is taken. The availability of data broken down by age is however problematic. Data available for 1999 show that including enrolment in university transfer programs would raise the rate of participation from 20.7% to 22.9%. This is a modest increase, comparable to the UK situation. The growth patterns are similar to the patterns based on the restricted view.

Figure 5: Rate of participation in undergraduate programs, initial participation indicator



Concerns

The major concern with this indicator is the concept of part-time enrolment. The fact that in Finland and Sweden enrolment as part time student is not possible does not mean that all students spend all their time on studying. In these countries there are many students who spend only part of their time on studying, making them de facto part time students. Data on such de facto part time students are not available.

Conclusion regarding the use of this indicator

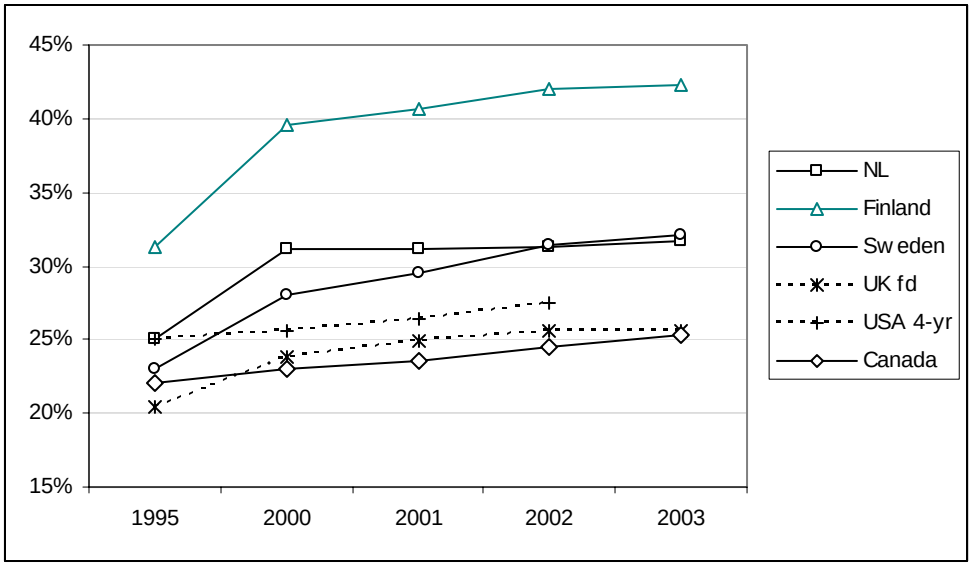
This indicator gives a good impression of the initial participation (soon after secondary education). Using in conjunction with an entry indicator, the indicator can provide useful information on participation in higher education, soon following secondary education.

3.4.5 Varying Pathways within the youth cohort

Name	Varying pathway indicator
Rationale	The indicator is designed to highlight the proportion of youth who have an opportunity to enrol in higher education study, either as full-time student or as part-time student. The indicator has a much broader scope as it includes students who take up higher education study in a less traditional way. It may help policymakers help to identify which countries are providing relatively more opportunities for youth to access higher education or where youth are taking up the opportunities provided
Base	Total undergraduate enrolment in higher education
Formula	Sum of the number of students in the four largest age groups in enrolment divided by the sum of total population in corresponding age-groups
Data-sources	National statistics on enrolment, broken down by age-group and level of education population, broken down by age group
Source	Herb O'Heron, AUCC

It may be argued that to be more inclusive, part-time students should be included in participation rates measures. The varying pathways indicator includes part-time students who are within the ages in the initial participation four-year age cohort. Many of these students are testing their abilities by taking their first course through part-time study (just as many of their full-time counterparts are) and those students who have temporarily dropped to part-time status in mid-degree as well as those who are finishing off degrees through part-time study (after having missed a course during their first few years of study).

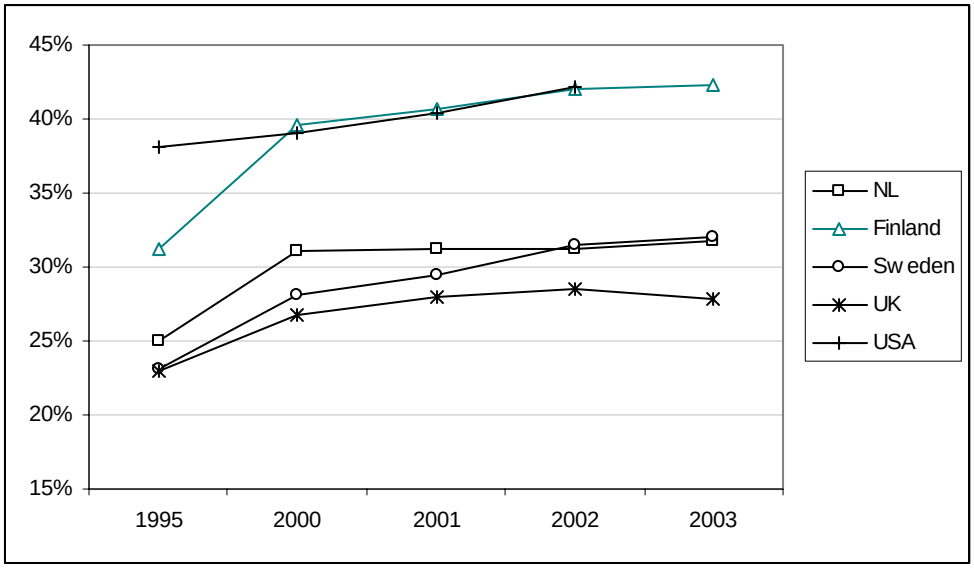
Figure 6: Rate of participation in first degree programs, varying pathways indicator



note: Swedish enrolment data on short degrees are not available but graduate statistics show that the short programs (Hogskole examen) are very small (around 2 % of total number of undergraduate degrees conferred). Enrolment in these programs is included.

Looking at the 2002/2003 level of participation, the picture is recognizable: Finland has the highest score, Sweden and the Netherlands are the leaders of the rest and Canada and the UK are trailing. From 1995 to 2000, there has been a strong growth in the European countries. In the new millennium, there has been growth in all countries except the Netherlands.

Figure 7: Rate of participation in undergraduate programs, varying pathways indicator



Note: Canadian data on part time short degree program enrolment broken down by age are not available
In the Netherlands and Finland, short degree programs hardly exist. Swedish enrolment data on short degrees are not available but graduate statistics show that the short programs (Hogskoleexamen) are very small (around 2 % of total number of undergraduate degrees conferred).

Using the broader view on higher education, the USA and to a lesser extent, the UK, score significantly higher. It is remarkable that the rate of participation in the UK has gone down in 2003.

Concerns

The inclusion of part-time enrolment does introduce a host of possible concerns regarding how to adequately and appropriately reflect part-time students in our participation measures. However the biases this causes seem to be limited, within this age cohort. In some countries, enrolment data comprise students who enrol in more than one institution – either full-time in one while part-time in another or by enrolling part-time in two or more institutions either in the same term or over the course of the academic year. The fact that in most of the six countries involved in this study enrolment is measured at a given date in the enrolment cycle may help to avoid some of the double counting that may result particularly for part-time students – for the same student enrolling in different institutions in different semesters.
The rational of the indicator is to identify the proportion of the youth who have (taken) the opportunity to enroll in higher education and get a degree. That implies that students who are taking an academic credit out of personal interest (including labour market related reasons) and who have no intention of accumulation credits

towards a degree, should not be counted. These students are very difficult to identify – some may already have a degree and are continuing to enroll out of personal interest. In other instances, employers may encourage graduates and non-graduates alike to take particular course that have a clear training link without requiring a degree. The impact of this potential problem however is small because of the limited scope of the reference group. These students especially those who already have a degree, are often older and would fall outside the four years for which we are computing initial participation.

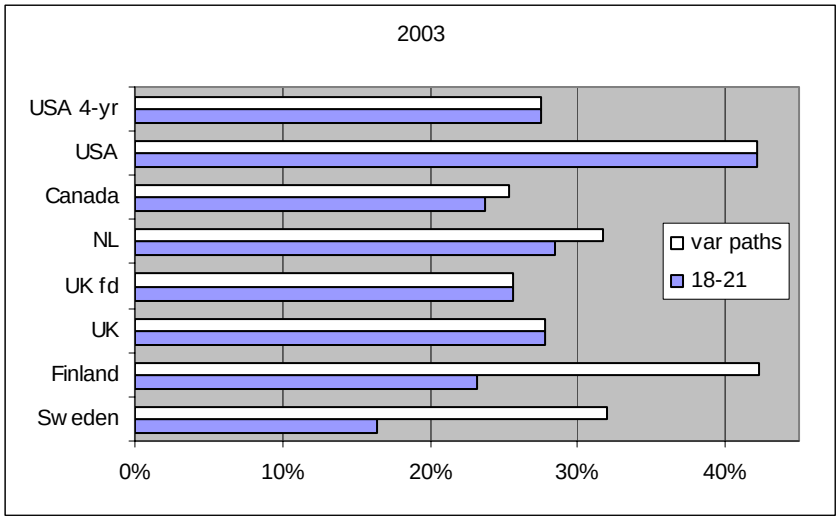
The major purpose of varying pathways indicator of participation is, as previously stated, to highlight the proportion of youth who have an opportunity to enrol in higher education study. The old OECD '18 to 21 standardized indicator' was intended to do just that, but given the differences between international university systems, it was destined to fail. To illustrate how important system differences can be, it is useful to compare the results of the varying pathways indicator with the participation rates of the 18 to 21 cohort for the six higher education systems.

The 18-21 rate is calculated as the number of students enrolled aged 18-21 divided by the population aged 18-21. The varying pathway indicator is calculated as the number of students enrolled in the four largest age groups in full-time enrolment plus part-time students in the same age cohort divided by the population in that age group. Both indicators are based on headcount data.

Participation rates among 18-21 year-olds were lower in four of the six countries than the varying pathways indicator. In the USA and the UK, the 18 to 21 cohort is the appropriate cohort so the participation rates were identical under both scenarios. In the Netherlands and Canada the difference is relatively small, although it has grown. In Sweden and Finland the participation rates using the varying pathways indicator are almost double the rates of 18 to 21 cohort[28]. The main reason for the latter is that there are many Swedish and Finnish students who start their study at a later age (see Appendix).To what extent this is due to the compulsory military service, the limited capacity of the systems (relative high level of unmet demand) or the age of graduation from secondary school is not clear.

[28] The highest 4-year cohorts are: Finland and Sweden 21-24; the Netherlands universities 20-23, hogescholen 19-22; Canada 19-22; and the USA and UK at 18-21.

Figure 8: Rate of participation in higher education, varying paths indicator and net participation rate 18-21 year olds, 2003



notes: USA 2002
The data for Canada include only universities and exclude those students in community colleges who are taking courses that have university transferability or are enrolled in university transfer programs or degree programs provided by the colleges.

Conclusion regarding the use of this indicator

The varying pathways indicator is a useful addition to the array of indicators. Combining the scores on this indicator and the previous indicator may highlight some structural features that influence the scores on participation in higher education. The good availability of data is an additional reason to consider using this indicator for participation.

3.5 Extended participation indicators

Access in this section is used in the context of having the opportunity to use higher education facilities. It refers to the higher education systems capacity to provide places for students in higher education (first degree) programs. The indicators are to reflect how many young people have actually used these opportunities.
Indicators based on this extended participation notion have been used in international comparisons before (see section 3.2) and it has become clear that a correct interpretation of such indicators hinges on one issue: the time students are enrolled in higher education.
Time spent in higher education is related to three issues:

1. the length of (first degree) programs: with a given inflow, system with long programs will have more students enrolled than systems with short programs

2. the actual time to degree: given similar programs, a system in which students take more time to graduate than the actual length of the program will have more students enrolled than a system in which students get their degree in the time set
3. drop out: a system in which drop out is low or at a late stage of the program will have more students enrolled than a system in which drop out is high or at an early stage.

The three issues regarding time spent in higher education need to be taken into account, either in the design of the indicators or when interpreting the scores on the indicators. Otherwise the indicators will produce misleading information.

In many continental European countries the duration of the first degree extends well beyond the 3-4 year bachelor's programs typical of North America and the UK. This situation is changing. The Bologna Declaration[29] has sparked a process in which national governments are reforming their national degree structures, bringing them more in line with the bachelor-master-doctoral model. There are however significant differences between the countries regarding the pace of the process and the options chosen. Because of this, diversity in degree structures still exists and probably will exist in the near future. Moreover, in the aforementioned Anglo-Saxon countries, professional degree programs are typically longer in duration and often require some university study or even the completion of a bachelor's degree.
Even if European higher education systems would already have converged to a bachelor master structure, we still would have to deal with the (current) reality that in many countries the actual average duration of study is significantly longer that the ideal program duration – (for some the assumed "ideal" being full-time study full-time with no gaps/stop-outs and no missed courses, for others it is more acceptable to expect that some student will require more time to complete given the diverse backgrounds and experiences of students while enrolled in university and indeed the enrolment of non traditional and non traditional pathways are often being encouraged – if they are being encouraged then it is important to measure how enrolment in these pathways is changing separately from the traditional pathways.

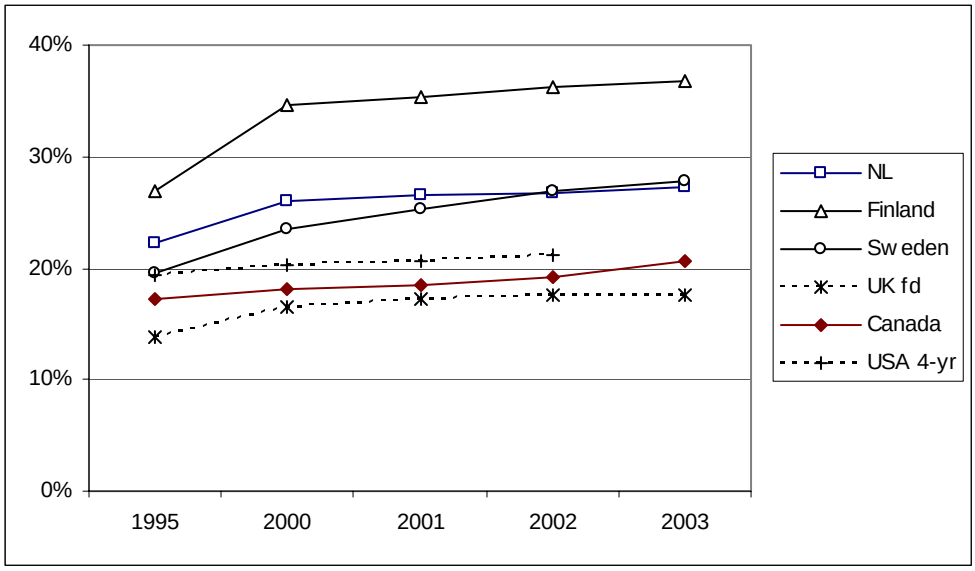
[29] For an authorative description of the Bologna process and a recent presentation of the progress towards the objectives set, see http://www.bologna-bergen2005.no/

3.5.1 Extended participation indicator

Name	Extended participation indicator
Rationale	The indicator indicates the proportion of the young age cohort that is enrolled in higher education and therefore the capacity of the system/ society to educate and train young people at higher education level. Lifelong learning is, because of the limited age band, not part of the indicator.
Base	Total undergraduate enrolment in higher education
Formula	Sum of the number of students in the seven largest age groups in enrolment divided by the sum of total population in corresponding age-groups
Data-sources	National statistics on enrolment, broken down by age-group and level of education population, broken down by age group
Source	Herb O'Heron, AUCC

The extended participation indicator is an extension of the varying pathways indicator taking the seven largest age groups of enrolment to calculate the rate of participation. It is assumed that this seven year age span captures even the longest first degree programs, as well as a significant part of the prolonged stay of those young first degree students that take more time than the standard length of the program to complete the program.

Figure 9: Rate of participation, first degree programs, extended participation indicator

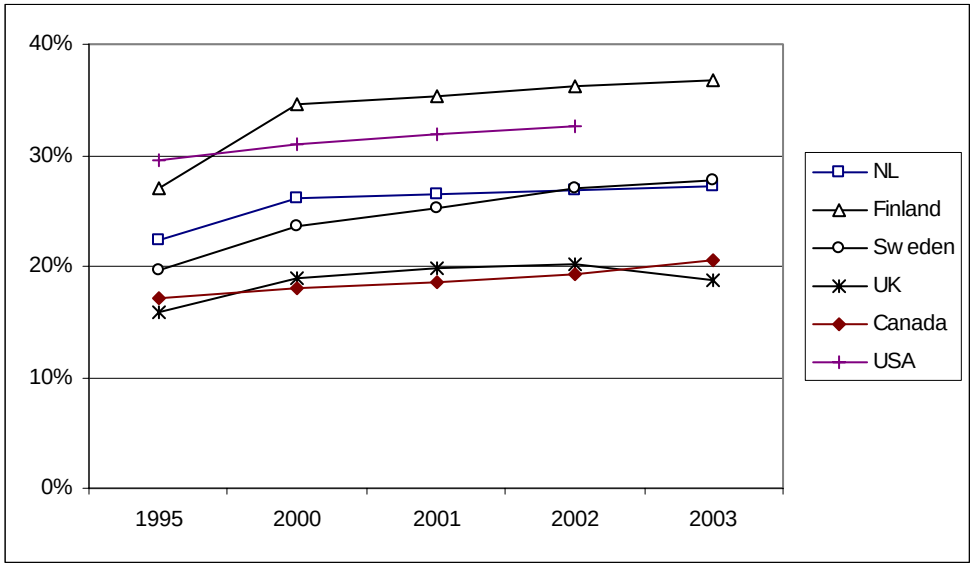


note: 7-year reference group: 18-24: the Netherlands, UK, USA and Canada; 20-26: Finland and Sweden.

In the second half of the 1990s, growth was strongest in Finland, bringing the score by the start of the new millennium to around 35%. Participation continued to grow in Finland in the period 2000 to 2003 extending or maintaining the consistently higher participation gap between Finland and the other countries on this participation measure. Participation in Sweden grew quite strongly throughout the whole period 1995 to 2003, surpassing participation rates of Netherlands in 2002 as participation growth in the Netherlands has been quite modest since the year 2000. In Canada and the USA participation rates grew only marginally both in the late 1990s and in the early part of the current decade, although participation growth was somewhat stronger in 2003. In the UK, after fairly significant increases in participation at the end of the 1990s, participation in first degree programs leveled off between 2000 and 2003.

Extending our view to all undergraduate programs, the USA score again jumps up significantly, whereas in the UK, the increase is much more modest. Regarding the UK it is remarkable that there was significant decrease in participation in other undergraduate programs in 2003.

Figure 10 Rate of participation, undergraduate programs, extended participation indicator



Concerns

A major concern with this indicator is the fact that many students at the upper end of this time frame would have already completed their studies. The use of a seven year reference group will lead in that case to understating absolute and perhaps more importantly relative participation in the international comparisons. It is however important to capture and contextualize the important enrolment that takes place in years 5 to 7. One way to do this is to compare undergraduate enrolment in this group to undergraduate in the first four years (captured in the 'varying pathways' indicator).

High ratios would likely be an indication of long first degree programming: low ratios could indicate shorter three year degree or shorter certificate programs. The interpretation of mid-range rates is less unambiguous: they could well indicate longer time to completion of first degree programs or the existence of enrolment in longer first professional degree and/or second undergraduate/professional degree enrolment.

An additional concern arises from the differences in drop out characteristics (size and timing) that are not taken into account in calculating the indicator scores.

Conclusion regarding the use of this indicator
As stated before, all three issues related to time to degree need to be addressed in order to come to a sensitive use of this indicator. Because of the two concerns described above, it may be concluded that the extended participation indicator cannot be used on its own and that additional information, from other indicators and from detailed descriptions of national contexts, is required. With that information, this indicator can be used as a valuable input in monitoring the rate of participation; without it, the indicator is of little value in international comparisons.

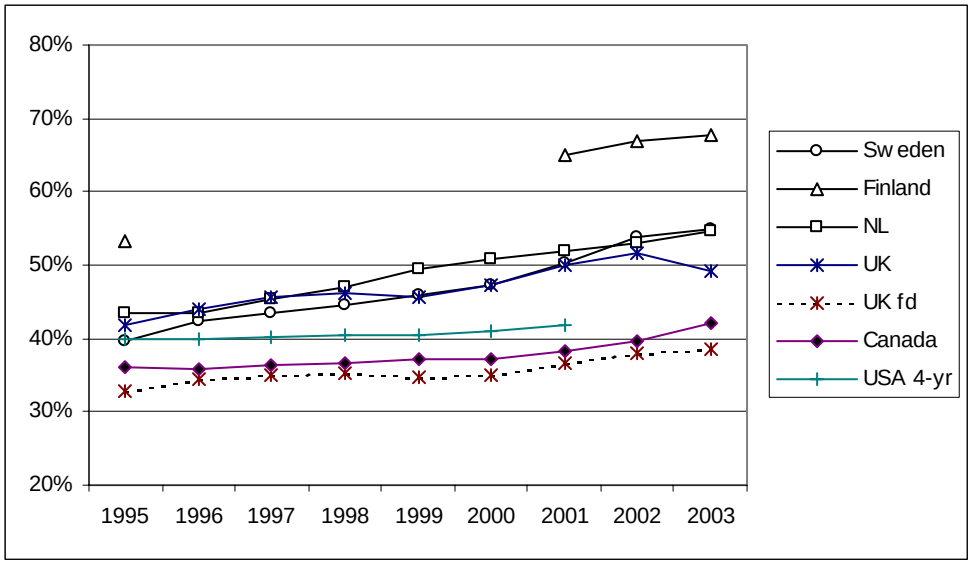
3.5.2 Corrected sum indicator

Name	Corrected Sum indicator
Rationale	The indicator indicates the capacity of a higher education system to educate and train young people, taking into account that the number of students the system can accommodate depends on the length of the programs.
Base	Total undergraduate enrolment in higher education
Formula	Ratio of the sum of the net rate of participation for each age-group within the range 17 to 29, by type of (undergraduate) program and the average time to degree for those types of program
Data-sources	National statistics on enrolment, broken down by age-group and type of education population, broken down by age group average duration of stay by type of program
Source	Frans Kaiser, CHEPS

With the second enrolment oriented participation indicator an attempt is made to incorporate some information on the degree structure into the indicator scores. The extended participation indicator is basically a gross enrolment ratio: the accumulated number of students (in a wide age range) is divided by the accumulated number of people in the population within the same age range. The corrected sum indicator is based on net enrolment ratios. Such a ratio is calculated as the number of students

enrolled of age X divided by the population aged X. To obtain a rate of participation, first the scores for all age groups within a specified age range can be summed. The resulting score[30] is still a function of the rate of participation and the number of years students are enrolled in higher education. To take out that last component, and get a valid indicator for rate of participation, the summation may be divided by the average duration of study for undergraduate students.

Figure 11: Rate of participation in first degree programs: Corrected net sum scores



notes: Sweden: duration of stay is assumed 4.5 years
Finland: duration of stay is assumed 5 years
NL: duration of stay is assumed 5 years (univ) and 4 years (HBO)
UK: duration of stay is assumed 3.5 years (first degree) and 2.2 years (other undergraduate)
Canada: duration of stay is assumed 4 years
USA: duration of stay in bachelor programs is assumed to be 4.5 years[31]

Figure 11 shows that the rates of participation in first degree programs in the UK, Canada and the USA are relatively low and that Finland scores high. Sweden and the Netherlands take an intermediate position. Extending our view with short programs (here data are available for UK only), leads to a substantial increase in the rate of participation.

As for the changes across the 1995-2003 period it is clear that the rate of participation has grown most in Finland and Sweden. Growth in the USA has been very modest. It

[30] Similar scores are presented by OECD as an indicator of access in *Education at a Glance*: the expected number of years for which 17-years-olds will be enrolled in tertiary education (Indicator C2.2).

[31] Sources : Sweden : HSV/SCB, Universitet och Hogskolor Grundutbildning Genomstroming (UF 20 SM 0102) table 1; Finland : KOTA/ AMKOTA; USA Bradburn, E. M., R. Berger, et al. (2003). A descriptive summary of 1999-2000 Bachelor's degree recipients 1 year later. Washington. http://nces.ed.gov/pubs2003/2003165.pdf

is interesting also to see that the Dutch rate of participation continued to rise after 2000 (other indicators have shown a stabilisation).

Concerns
One of the major problems with this indicator is the need to have good annual data on the average time to completion (as a proxy for the average duration of stay). Information on the average time to degree is available for some countries, but the definitions according to which this information is collected are not readily comparable. Furthermore, taking time to degree as a proxy for duration of stay will overestimate the duration of stay, assuming that those who do not complete will leave the institution in an early stage of their study. Using the length of programs as a rough estimate has its practical advantages but it neglects the fact that the average duration of stay may change over time, be it not at a very fast pace.

Conclusion regarding the use of this indicator
This indicator takes into account the age distribution of enrolment within a specified age range and it takes into account differences in time to degree. Because of this, the indicator may produce valuable information complementing the information produced by the extended participation indicator. However, the availability of international comparable data on time to degree is still limited. Proxies for this information may be used, but this implies that additional information on the validity/reliability of these proxies needs to be presented alongside the scores on this indicator.

3.6 Output and outcome measures

The third part of the story of participation in higher education is the output of the higher education system. That output, the higher education graduates, as well as the accumulated output over the last decade(s) are central issues in economic and social policies in many Western countries. It is argued that, to keep the competitive edge, it is crucial to increase the educational attainment of the population and for that to enhance the number of higher education graduates. If the number of graduates grows, the educational attainment will grow as well, be it at a slower pace.

3.6.1 Graduation rate

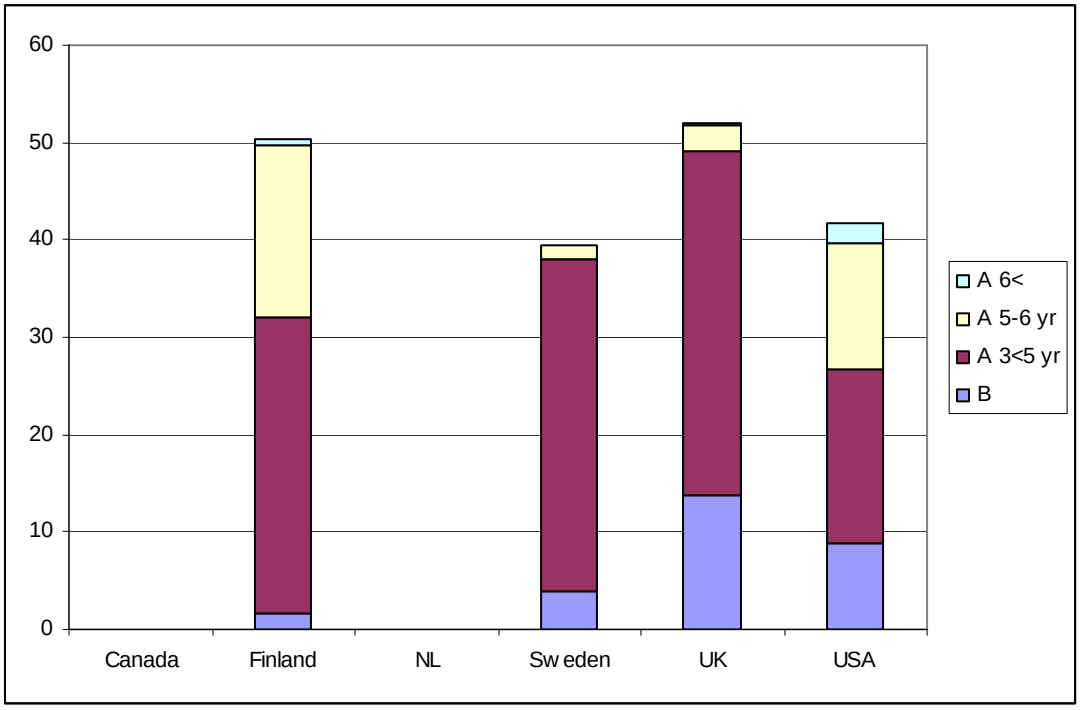
Comparable indicators for monitoring progress in the level of graduates and educational attainment are not very well developed. For graduations, the OECD calculates a tertiary education graduation rate and for educational attainment the percentage of the population with a tertiary education degree is calculated (OECD 2004).

The graduation rate should not be confused with the completion rate, a commonly used indicator for the effectiveness of higher education system/institutions. There are basically two ways graduation rates can be defined: as a gross rate or as a net rate. For the gross graduation rate the total number of graduates is divided by a specific age group of population. The net graduation rate is defined as the sum of the graduation rates of all age groups. The latter rates are calculated as the number of graduates aged X years divided by the population aged X years.

Using OECD data

International comparative data on graduation rates are scarce. The OECD presents in *Education at a Glance* information on the gross graduation rate (see Figure 12).

Figure 12: Percentage of tertiary graduates to the population at the typical age of graduation, 2003



source: OECD, Education at a Glance 2005, table A3.1
note: 'A' refers to ISCED97 level 5A, 'B' refers to ISCED97 level 5B
the figures next to A refer to the length of the program of first graduation

Concerns

These data have lead to many raised eyebrows. The Finish and Swedish data are in line with what could be expected based on the entry rates. The high score of the UK however is quite extraordinary, knowing that entry rates in the UK are considerably lower than in Finland and Sweden. Part of this may be explained by higher completion rates in the UK. OECD-data on survival rates show that the survival rates (a proxy for completion rate) are highest in the UK and are relatively low in Sweden (OECD 2004) p.70. National data on dropout are in line with this observation [(Statistics Sweden 2005), tab 15.12;(HESA 2005)]. However, Finish data on survival rate and dropout show minor differences with the UK score, which leaves part of the problem unsolved. An additional explanation may be found in the differences between the countries regarding the dispersion of graduates over the age groups. The typical age of graduation spans in Finland 5 years (25-29 years) in Sweden three years (23-25 years) and in the UK only one year (21). Eurostat data show that in 2002 in the UK nearly three quarters of the graduates (in 3-5 years programs) are younger than 23 whereas in Sweden and Finland only 5% of the graduates has graduated by that age. Given the fact that entry has grown over the past decade, this will lead to an overestimation of the UK graduation rate, relative to the Finnish and Swedish rate[32]. Whether this bias may explain the unexpected scores for the UK in relation the Finnish scores is (based on the data available) difficult to assess. A final possible explanation may be problems in the reliability of the data reported to OECD. Although the OECD data are said to refer to first graduation data only, it is not clear to what extent the national data reported still comprise double counting of degrees awarded.

A further drawback of the OECD data is that the table presented shows considerable data gaps. The Canadian and Dutch data are reported as missing in the OECD database.

Conclusion

The major concerns regarding the OECD data on graduation rates are the main reason to conclude that this indicator cannot (yet) provide sound information to inform policy makers regarding the outcomes of their access policies.

Using national data

The use of national data to calculate graduation rates is an alternative for using OECD statistics. Given the differences in starting age, it would be desirable to compute this rate with a variable five-year age cohort. Based on national data available, gross and

[32] The age at entry in the UK is relatively low, but even though, the time to completion is relatively short (which shows from the low age of graduates). Because of this and the low rate of dispersion, the UK scores on graduation rate relate to more recent entry chorots than the Finish and Swedish scores.

net graduation rates were calculated Sweden, Finland and the Netherlands[33] (see appendix 3).
The scores of the gross graduation rates do not differ substantially from the Finish and Swedish scores as presented by OECD. In Finland and Sweden the net graduation rates are significantly lower than the gross graduation rates, whereas in the Netherlands, the scores on both indicators are more or less the same.

Concerns
The differences between the gross and net graduation indicators reflect differences in the national contexts. The major difference is in the way older graduates are treated. In the gross ratios, these graduates (older than 30) are taken into account when calculating the graduation rate. In the net approach (calculation of a synthetic cohort score, those graduates are not taken into account, which will lead to a lower score. In countries where a relatively large proportion of graduates is older than 30, the gap between the scores on the two indicators is larger than in countries where graduation after 30 is not that common.
In addition, there is a clear danger of double counting degrees in sequential systems, which impairs comparisons with parallel systems (where double counting is less a problem. This problem of double counting is difficult to solve. Netting out graduates who already have a higher education degree is not an option in sequential systems, since most/all higher degree graduates (or transfer students) already hold a lower degree, which would mean that higher degrees will never be included in the indicator score (including Sweden and the UK). In *Education at a Glance*, graduates who subsequently completed a higher degree are excluded from the lower degree graduation rate. How that is done is not clear from the publication, which brings us to the issue of feasibility. The calculation of this indicator requires detailed information on graduates, by age and previous higher education qualification obtained. This type of information is not (yet) available in many countries.(see also Takkenberg in Jaarboek onderwijs 2005, pp. 222-223)

Conclusion regarding the use of this indicator
The concerns regarding the validity (double counting) and feasibility of these indicators are critical. The activities in the Bologna process will contribute to a better validity of the indicators, but this will take ample time. On the short term these graduation rate indicators are not very useful for policy makers to monitor the outcomes of their access policies from an international comparative perspective.

[33] For Canada, the USA and the UK the required data were not (readily) available.

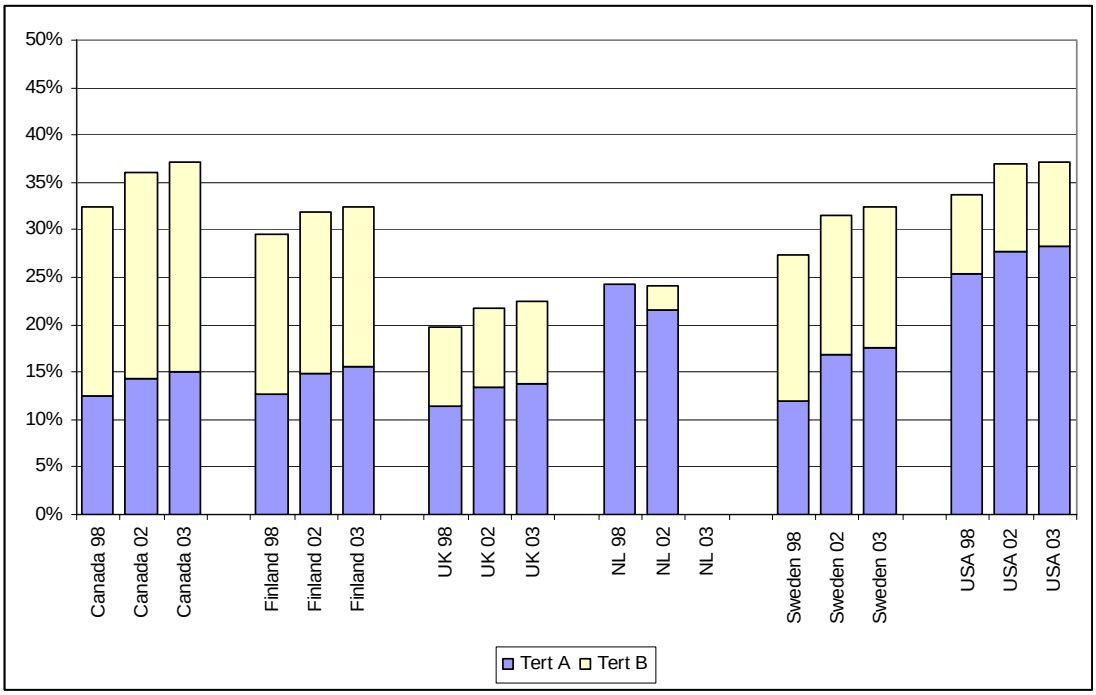
3.6.2 Educational attainment of the population

Name	Educational attainment: adult population
Rationale	The indicator indicates the stock of human capital available in the adult population
Base	Population aged 25-64 with a higher education degree or certification
Formula	Ratio of the number of the people aged 25-64 with a higher education degree and the population aged 25-64
Data-sources	National Labour Force Surveys
Source	OECD

Educational attainment of the 25 to 64 year old population base represents the accumulated output of the education system over the past 40 years. It can be seen as a large reservoir into which the new graduates flow in and the retiring graduates flow out.

The most frequently used source for international comparative information on the educational attainment is again *Education at a Glance*. There, data are presented on the population aged 25-64 broken down by highest level of educational degree obtained (see Figure 13). These data are based on national Labour Force Surveys.

Figure 13: Percentage of the population 25 to 64-year-old that has attained tertiary education (ISCED 5A or 5B), 1998, 2002 and 2003



source: OECD, Database, Corporate data environment

note: Data on ISCED 5A presented in Educational at a Glance are lumped together with data on advanced research programs (ISCED6). In the source used, these two level are presented separately

These data show that the USA has relatively more university graduates (tertiary A) in their adult population followed by the Netherlands and Sweden, while the other nations lag behind in this respect. It is also remarkable that university attainment in the Netherlands has not grown over the 1998-2002 period. Canada has the largest rate of certification in tertiary B programming followed by Finland, Sweden, with the USA and the UK trailing well behind and the Netherlands even further behind with a very small proportion reported in 2002.

Concerns

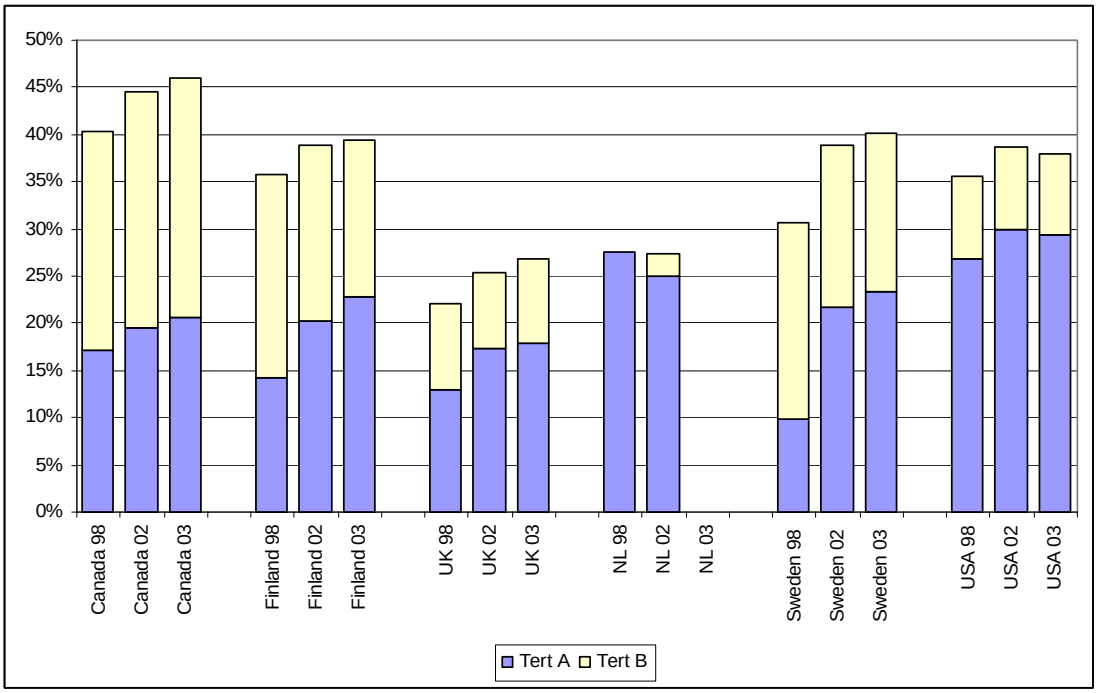
The validity and reliability of the information in the context of monitoring the outcomes of access policies is very limited.

The first concern is related to the question what constitutes higher education. The data as presented in *Education at a Glance* are broken down by ISCED 97 level, but the results are rather extraordinary. The high proportion of tertiary 5B in Finland and Canada suggest that graduates from post secondary programs are included in this category, at least in some countries, at least partly.

The second concern is the type of data the scores are based on. The data from Labour force surveys are self reported data collected through sample surveys. It may be

argued that the reliability of such data, especially when reporting level of highest attained educational is lower than the reliability of administrative data.
There is a serious time lag between access policy actions and changes in graduation rates or educational attainment. Considering that the indicators should inform policy (in a timely way) this time lag is a problem, especially concerning the educational attainment indicator. The impact of higher education policy actions on overall educational attainment of the 25-64 years old population is difficult to assess in a timely way because the stock of higher education graduates in the population is so large, reflecting 40 years of degree completion. To show the relation between policy action and educational attainment in a more 'timely' way, one may look at the educational attainment of the population following directly after graduation, i.e. the 25-34 years old population (see Figure 14 below).

Figure 14: Percentage of the population 25 to 34-year-old that has attained tertiary education (ISCED 5A or 5B), 1998, 2002 and 2003



source: OECD, Database, Corporate data environment

The picture on this younger population base differs from the aggregate adult population. Scores are higher, as could be expected in expanding higher education systems. Again the USA leads with close to 30% of 25 to 34 population base having completed university degrees (tertiary A), the Netherlands is at 25% and both Finland and Sweden are rapidly closing in on 25%, followed by Canada at 20% and the UK at about 18%. Quite remarkable is that educational attainment in the USA has decreased.

It is furthermore remarkable that in Finland, Sweden and the USA, growth of tertiary B attainment in the 25-34 years old age group is much lower than in the 25-64 year age group.

Conclusions regarding the use of this indicator
The relation between participation in higher education and the outcomes of higher education is an important one, even more so because those outcomes are directly linked to the economic competitiveness of a country. However, there are grave concerns regarding the validity and reliability of the indicator scores for monitoring the outcomes of access policy, which leads us to the conclusion that this indicator should not be used until the major problems are solved.

3.7 Summary and evaluation

In the previous sections an array of indicators related to various aspects of participation in higher education is presented. Within any individual system the rate of participation differs across the various indicators of participation because each indicator attempts to examine a different aspect of participation. Differences in the scores on the indicators between the various countries are strongly influenced by structural differences between the higher education systems and by differences in national contextual characteristics. The latter issue will be discussed in chapter 4. In the sections below, the scores on the indicators are first summarised and compared and later assessed on eight 'technical' aspects.

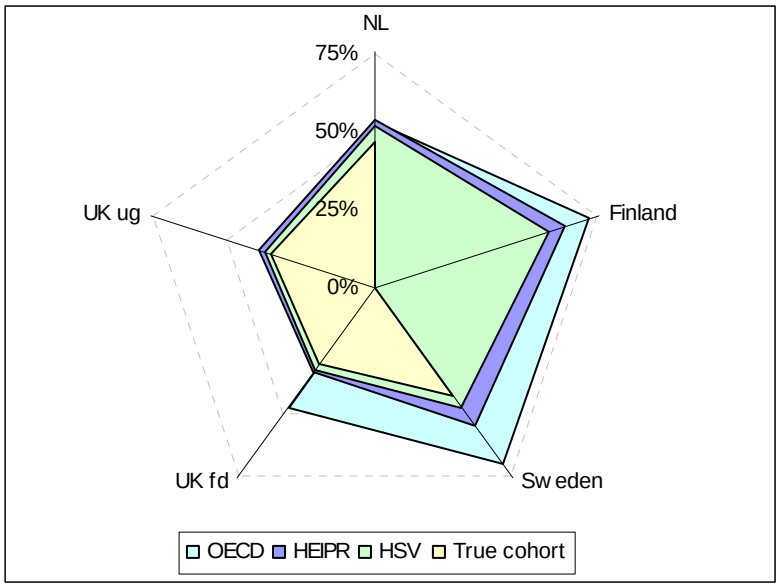
3.7.1 Comparing scores

As was stated earlier in this report, indicators should be used as a set of indicators; the use of isolated indicators should be avoided. Since systemic differences may have different impacts on different indicators, focusing on one indicator may provide a distorted view on the situation. To assess what the impact of systemic differences may be, the scores on the various indicators are presented simultaneously.
The first part of the analyses focuses on the latest year available, which is in most cases 2003. In the second part, changes through time are addressed.

3.7.1.1 Indicator scores in 2003

In the radar charts below, the scores on the entry indicators and the participation indicators are presented for 2003.

Figure 15: Scores on entry rate indicators, scores 2003



Notes: USA and Canada scores could not be calculated
The Swedish score on OECD is based on Swedish national data
The OECD scores refers to ISCED 5A

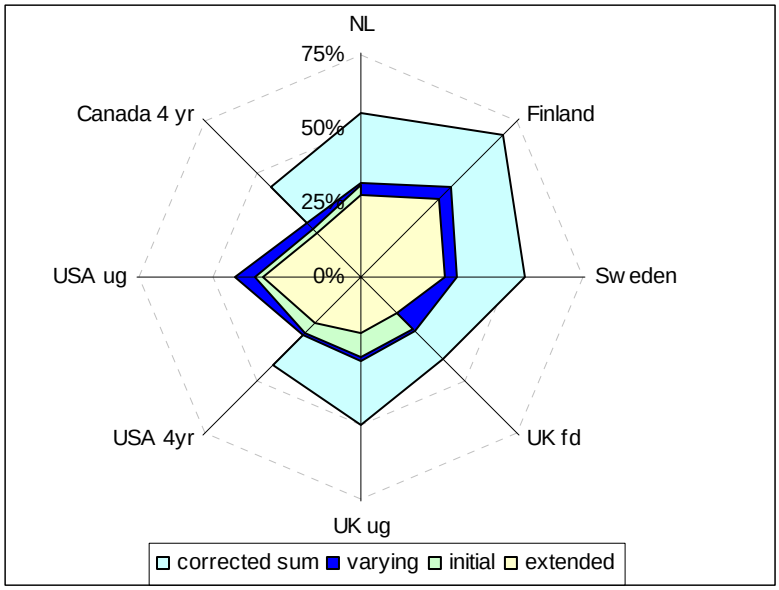
The scores are logically consistent: scores on the more comprehensive definitions[34] are consistently higher than scores on less comprehensive indicators. The only 'aberration' is the low Dutch OECD-score.

All indicators produce a similar ranking of countries on their entry rates: Finland is on top and the UK at the bottom of the list. The differences between the scores on the different indicators are relative small for the UK and the Netherlands and relatively significant for Sweden and Finland. This is an indication of a systemic difference between the Scandinavian systems on the one hand and the Dutch and UK systems on the other: in Sweden and Finland there is relatively more entry in the age group 25 to 30 than in the UK and the Netherlands.

Demographic fluctuations in the UK have had less impact on the synthetic cohort scores than was the case in Sweden and the Netherlands. That is why the difference between the true cohort and the synthetic cohort 17-25 scores is relatively small for the UK and relatively large in the Netherlands and Sweden.

[34] The OECD indicator is more comprehensive than the Heipr because the age group used is larger. In a similar fashion, the HEIPR is more comprehensive than the HSV indicator.

Figure 16: Scores on participation indicators, 2003



Notes: USA scores 2002

The participation indicators produce a consistent ranking of countries on their 2003 score: Finland is highest followed by USA (taking the broad view on higher education). The Swedish and Dutch scores are remarkably similar on all four indicators. In the bottom half of the ranking Canada and USA (4 year programs only) are on a comparable level, with the UK scoring (slightly) higher.
There is also consistency in the scores on the four indicators in each country: the extended participation indicator has the lowest score, followed by the initial access indicator and the varying pathways indicator. The corrected sum indicator has, by far, the highest scores.

The fact that the extended participation indicator has a lower score than the varying pathway indicator indicates that in all systems the majority of enrolment is in the 'early' four years. The rate of participation in the more mature part of the extended age group is therefore lower than in that initial age group, which lowers the overall score on the extended participation indicator.
The difference between the varying pathways indicator and the extended participation indicator is relatively small in the Netherlands, Finland and Sweden[35]. In these systems enrolment in the mature part of the extended age group is relatively high. In the UK, enrolment is much more concentrated in the younger part, leading to a relatively large difference in scores between the varying pathways and extended access indicator. Furthermore it is remarkable that the difference between scores does

[35] The ratio between the scores gives an indication of the relative difference. In the Netherlands the ratio is 1.16, in the UK it is 1.48.

not change when using a broad (including 2 year programs) or a narrow (first degree only) view on higher education.

The main difference between the initial participation indicator and the varying pathway indicator is the inclusion of part time enrolment in the latter. Comparison of the results of both indicators reveals that part-time participation is relatively insignificant in the UK and the Netherlands and more significant in Canada and the USA (especially when 2 year programs are included).
The relatively large difference between initial and extended participation in the UK signals that a relatively large part of part time enrolment is in the young age group, whereas in Canada and the USA a relatively large part of part time enrolment is in the more mature age groups.

The comparison between extended participation and the corrected sum indicator is less straight forward. The main difference is that the corrected sum indicator takes the time to degree into account. A relatively large difference between the scores indicates that there are relatively many students enrolled in shorter programs (or takes less time to complete their degree). The difference in scores for the UK is relatively large, whereas Finland scores low in this respect.[36]

Comparing scores and calculating differences between indicators reveals systemic differences that are in line with the descriptive analyses of the higher education systems (as presented in the appendices).

Comparisons so far have focused on comparing indicators within each of the two types of indicators (entry rates and rates of participation). The most obvious comparison is between the synthetic entry rate with the 17-30 age group (HEIPR) and the corrected sum score since both use the same age group. Although this comparison is limited because of the absence of data for Canada and USA, it shows that that the differences between the scores on both indicators for the Netherlands, Finland and Sweden are very small, whereas for the UK, especially when using the broad view on higher education, the differences are more substantial. A possible explanation for the latter may be that the score on the entry rate is too low[37] or the corrected sum score too high[38]. However, given the concerns described in chapter 3 regarding the

[36] The ratio between corrected sum and extended participation for Finland is 1.84 and UK 2.2 (fd) and 2.6 (ug). For the other countries the ratios are around 2.
[37] The official score was much higher but it includes more programs (from 6 months on) than in the definition used in this report (two year programs).
[38] The score may be too high because the time to degree of short programs is estimated too short. This points at one of the weak points of the corrected sum indicator, i.e. the quality of data on time to degree.

corrected sum indicator, it is very tricky to use the ratio between the synthetic entry rate and the corrected sum score.

3.7.1.2 Analysing changes

Entry rates
Both synthetic entry rate indicators (HEIPR and HSV) produce comparable trends. In the Netherlands, entry rates have leveled of since 1999 and shot up in 2003. Finland shows a similar pattern. Sweden and the UK have a more fluctuating trend.
If the synthetic entry rate indicator scores are compared to the true cohort approach scores, there are some significant differences. In the Netherlands, the true cohort indicator does not show a leveling off, but grows continuously. The Swedish comparison shows that the true cohort has (also) a more smooth growth path than the synthetic entry rates.

Figure 17: Changes in the scores on entry rate indicators, the Netherlands, 1998=100

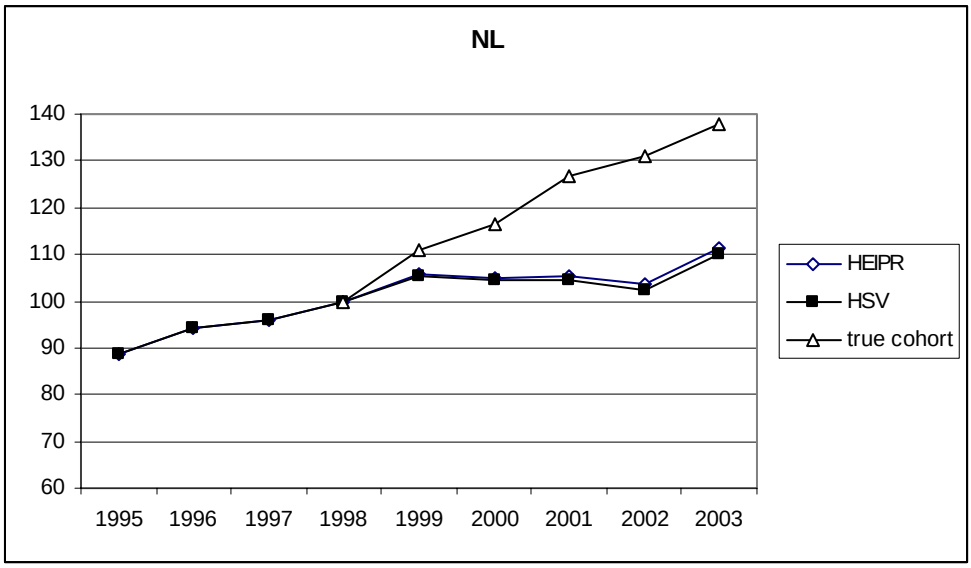


Figure 18: Changes in the scores on entry rate indicators, Finland, 1998=100

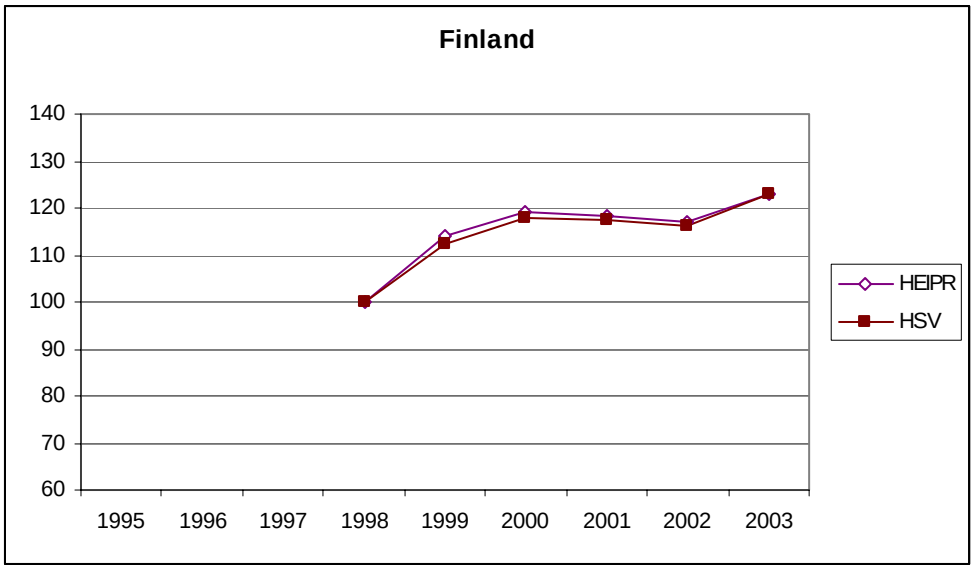


Figure 19: Changes in the scores on entry rate indicators, Sweden, 1998=100

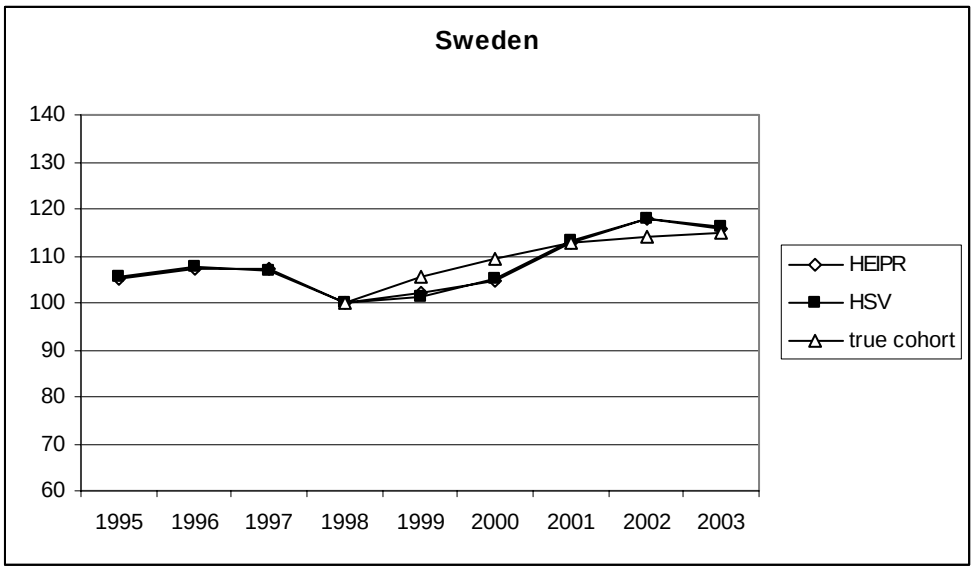
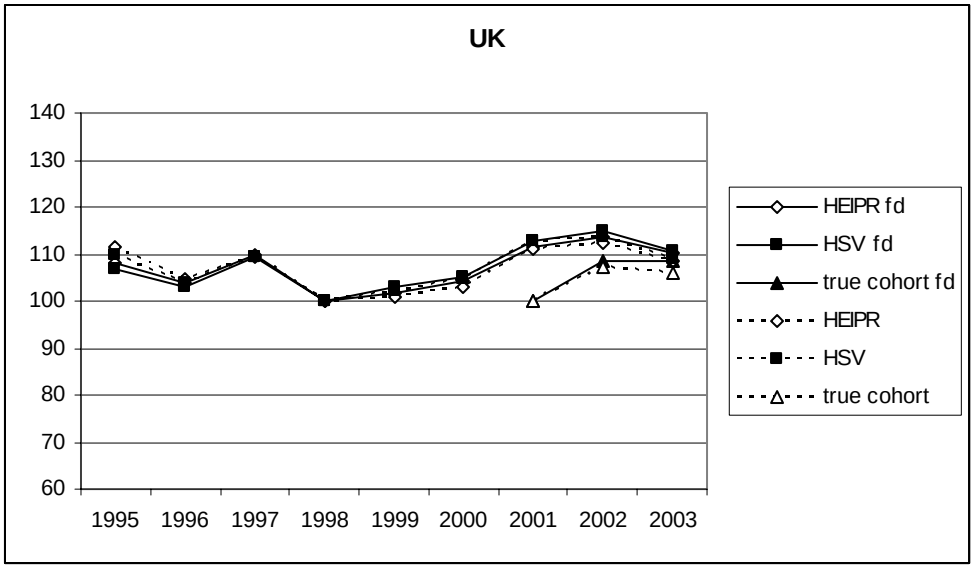


Figure 20: Changes in the scores on entry rate indicators, UK, 1998=100

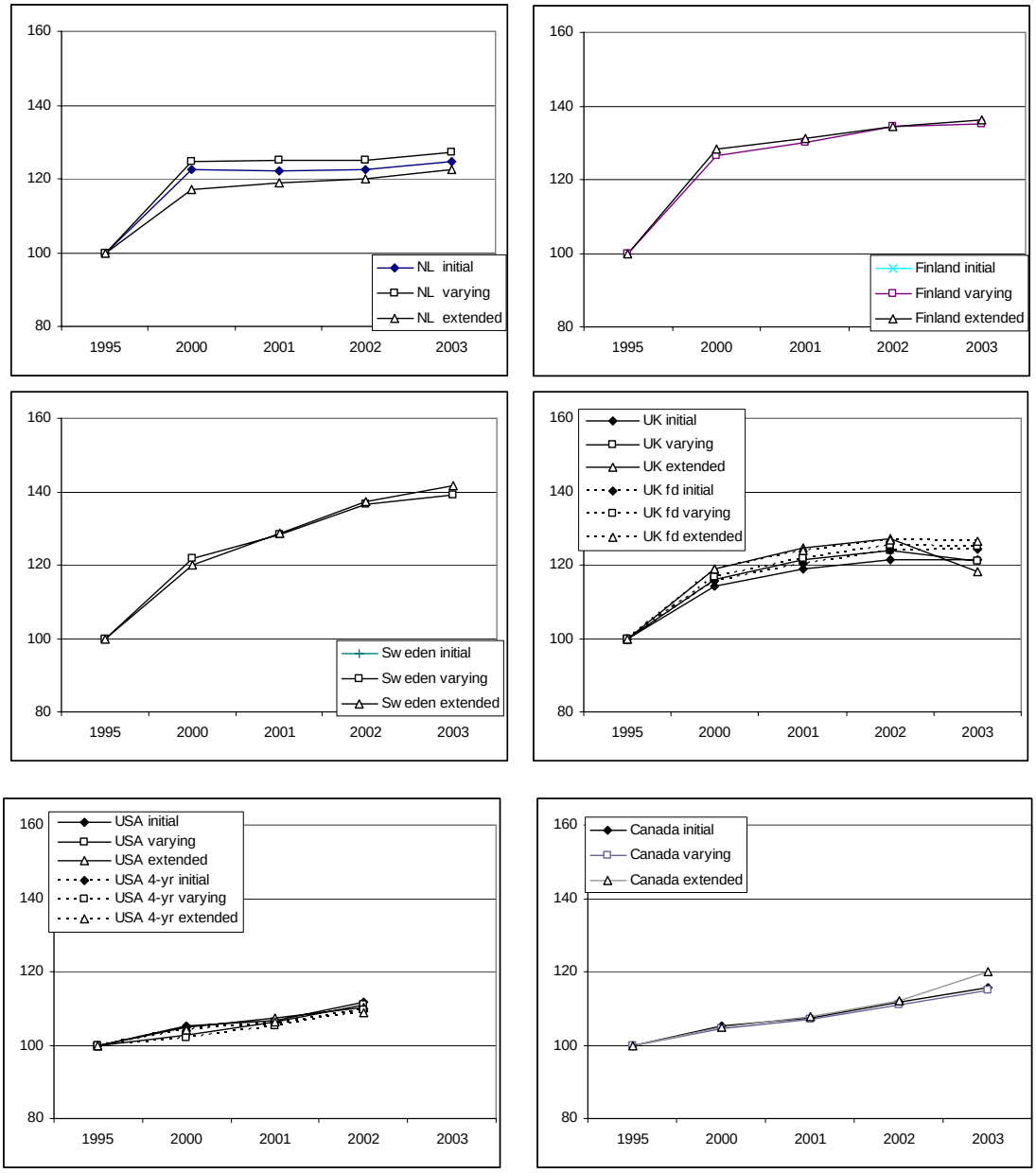


Participation indicators

A first visual inspection of the graphs on the changes in scores on participation indicators shows that changes in participation rates are smoother than the changes in synthetic entry rates. This is not surprising since participation indicators refer to stocks whereas entry rates refer to the inflows into those stocks. Fluctuations in the inflows are dampened in the stocks.

A second observation is that in Sweden and the UK, 1995 participation rates were substantially lower than the 2000 levels, which is not the case with the entry rates.

Figure 21: Changes in scores on participation indicators, 1995=100



Given the concerns regarding the output/outcome indicators, the scores on these indicators will not be presented here.

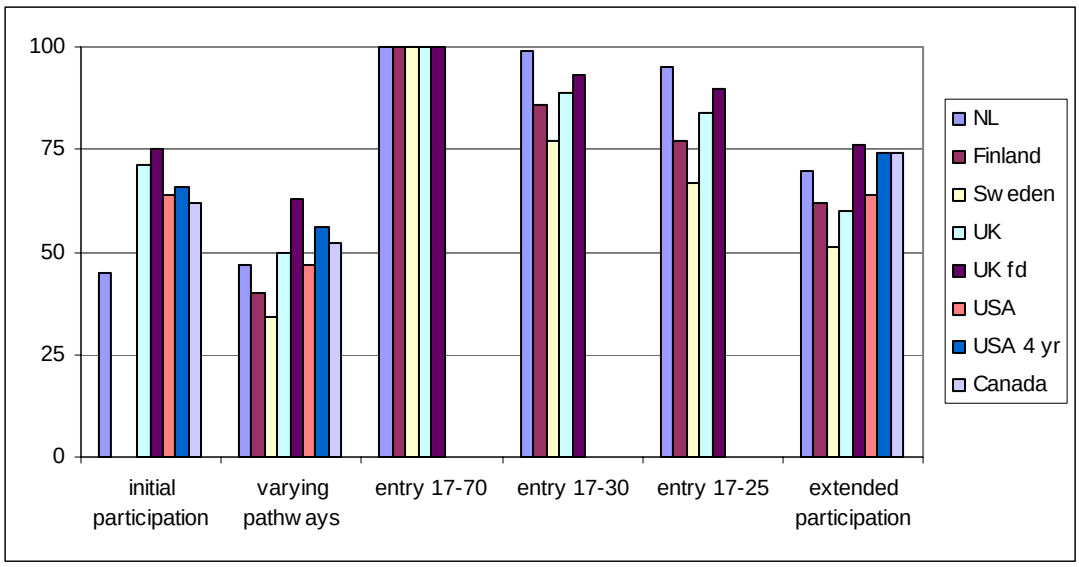
3.7.2 Evaluation of the indicators

It is unlikely that policymakers will use all indicators presented here to base their access policies on. One input in the decision what set of indicators to choose is the 'technical quality' of the indicators. This 'technical quality' will be assessed below using six criteria.

3.7.2.1 Coverage of the age groups

Coverage refers to the proportion of new entrants, enrolment or graduates that are captured by the indicator. In general, a high coverage is a positive characteristic of an indicator.

Figure 22: Coverage of total entry/ enrolment by the various indicators (2002/03)



note: coverage of initial participation refers to coverage of full time enrolment only.

Coverage of the initial participation and the varying pathways indicator is low for the continental European countries and relatively high for the Anglo-Saxon countries. The low scores on the varying pathway indicator for Finland and Sweden indicate that entry in these countries is much more dispersed across age groups than in the other countries. This is apparent also from the coverage scores on the net entry rate indicators. Limiting the reference group (to 17-30 or 17-25) reduces the coverage in Sweden and Finland much more than it does in the Netherlands and the UK.
As for the extended participation indicator, coverage is higher than for the varying pathway indicator. The variation between countries is also lower, which means that the differences between countries regarding the proportion of actual enrolment captured by the indicator are reduced.

3.7.2.2 Double counting

Indicators based on the number of new entrants may be biased because of double counting. The relevance of this bias depends on the definition of new entrant used and on the national degree structure. If new entrant is defined as a person who enters higher education for the first time, the danger of double counting does not exist. If new entrant is defined as a person who enters a certain (type of) institution and/or a certain (type of) program for the first time, the danger of double counting is significant. Double counting may occur when students transfer between programs or institutions. In sequentially organized degree structures, the second definition leads to double counting if students continue their educational career after having attained a degree or diploma. A third situation in which double counting may occur is when students re-enter after a period of not being enrolled.
The data used in this report all refer to new entrants who have no higher education history. The issue of double counting is therefore no issue in comparing indicator scores based on new entrants.

Double counting may be an issue when comparing graduation rates as well. In parallel systems double counting may occur whenever students decide to obtain a double or second undergraduate degree, either within the same type of higher education institution or in different types of higher education institutions (polytechnics or universities). The proportion of students doing so is however relatively small. In sequential systems the danger of double counting is more immanent. Students who obtain a master degree after having obtained a bachelor degree may be counted twice in educational statistics as graduates. This problem may be avoided by focusing on undergraduate education only (as was done in this report). However, in most sequential systems, undergraduate education comprises short programs, as well as first-degree programs. Double counting may be a serious problem if a substantial part of these short degree holders continue their study in first degree programs. OECD has ‘solved’ this problem by excluding short undergraduate degrees; only three or more years- programs are counted in calculating graduation rates. This may ‘solve’ the problem but it also excludes important information. Short programs are seen by some policy makers (especially in England and more recently in the Netherlands) as an important instrument in reaching participation targets. Leaving out short degrees therefore cripples the ability to monitor progress on an important policy instrument. A possible way out is to analyse transfers from short programs to first-degree programs. This can be done by looking at the proportion of short program graduates who continue their study or by analysing the educational background of new entrants of first-degree programs. In Finland, around 10% of the AMK graduates continue their study in university first degrees. There are no short programs in Finish universities. In the Netherlands, around 10% of the HBO graduates continue their study. Those of them who actually get a second degree, either in HBO or university, contribute to an

over-counting of the graduation rate. In the UK, around 10% of new entrants in full-time first degree programs have a higher education qualification. In part-time first-degree programs (that comprise around 10% of total first degree entry) more than half of the new entrants have already a (short) higher education qualification. Of the graduates of short undergraduate programs, 41% went on to further study (2002). Since enrolment in short programs is around 40% of total undergraduate enrolment, it is reasonable to assume that there is a substantial danger of double counting UK graduates. In Sweden, more than 15% of the higher education graduates continue their study. This continuation rate differs only slightly for graduates of short programs, bachelor and master programs. In Sweden, the danger of double counting graduates is therefore slightly higher than in Finland or the Netherlands.

3.7.2.3 Feasibility

In general, enrolment based indicators prove to be more feasible than entry rate and graduation rate indicators. These indicators require enrolment data and population data to be broken down by separate age groups. In the four European countries, as well as in Canada the provision of these data proved to be no problem[39]. The US data are not fully broken down by separate age groups, which makes it necessary to use estimates to calculated the corrected sum indicator.

The initial participation indicator is not feasible for Finland and Sweden. Part-time enrolment is not registered. For international organisations like OECD, Sweden provides data on part-time enrolment but these data are rough estimates, based on the number of credits obtained.

For the varying pathways indicator these problems do not exist. The required data are available for all countries.

Feasibility is not a great obstacle in calculating the extended participation indicator either. The corrected sum indicator is plagued with a bigger feasibility problem. To correct the net sum scores, data on the average duration of stay in a particular program or type of institution is needed. Information on this item is very difficult to find. Information on the average time to degree (as a first proxy) is less scarce, but comparability between the data of the various countries is not.

The entry rate indicators are ‘crippled’ by the lack of long time series on the number of new entrants to higher education. In the USA and Canada, the age of new entrants is poorly registered, which makes calculating the entry rates for these countries a hazardous operation. Calculation of net entry rates, based on a synthetic cohort requires a full breakdown of new entrants by age group. Since most countries provide this type of data to OECD, data are available. Calculation of entry rates based on the ‘true cohort’ approach require long time series on new entrants to higher education.

[39] For Finland, the provision of longer time series proved to be problematic. Data on recent years are readily available.

In calculating graduation rates, the availability of data is also a highly relevant issue. Given the differences in starting age, it would be desirable to compute this rate with a variable five-year age cohort. However, given available data sources it is likely that a standard like between the ages and 25 and 29 would become the norm. This could conceivably understate relative levels of degree completion in countries where students start their studies at a later age and or where there is extended program duration in the first degree. While using an older age cohort (30 to 34) would help to improve the comparability, the use of older cohorts reduces the timeliness of the indicator. For example an indicator showing the degree attainment rates of 30-34 year olds in 2005 would be highly related to relate access levels in a given university system 10 to 15 years earlier – between 1990 and 1995. Much may have changed in access and participation in the intervening 10 to 15 years.

3.7.2.4 Robustness

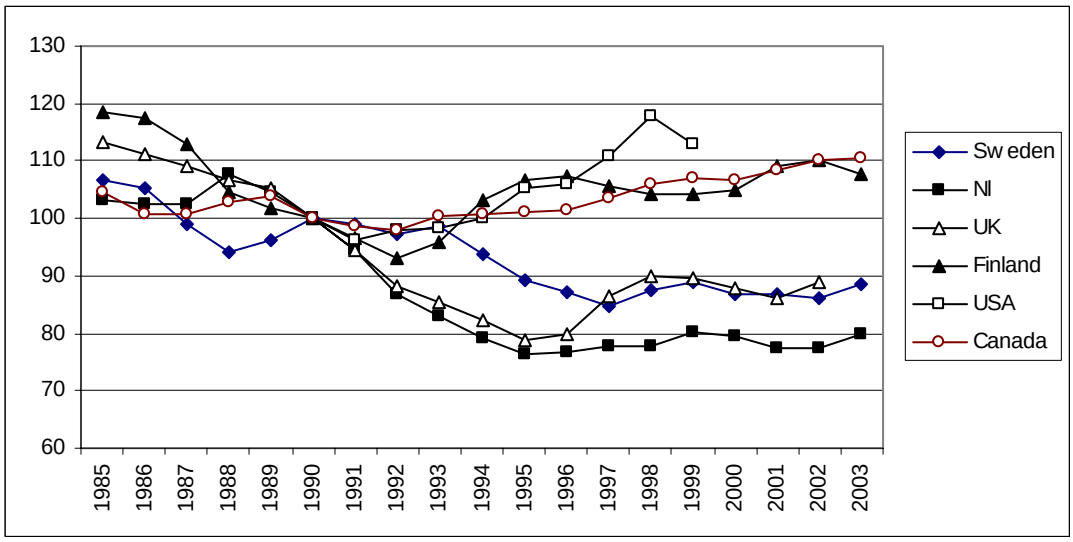
Demographic fluctuations

Fluctuations in the size of birth cohorts may have a biasing influence on the scores of indicators on participation.

Entry indicators may be subject to these demographic biases. The use of synthetic cohorts (basis for the OECD entry rate indicator, the Swedish HSV indicator and the English HEIPR) is based on the assumption that there are no fluctuations in the birth rates. If however, the size of birth cohorts does fluctuate, as Figure 23 shows, it may produce biased results. If the size of the relevant cohorts goes down, the synthetic entry rate indicator will overestimate the true entry rate, whereas in the situation of a strong growth of the size of the relevant birth cohorts, the synthetic entry rate indicator will underestimate the true entry rate[40]. The size of this bias depends on the growth/decrease rate, the growth pattern and the scope of the indicator (how many years are taken into account), but it can be significant, as the results in section 3.4 show.

[40] In the synthetic cohort approach it is implied that the relative size of age groups is constant over time; the value of the most recent year is taken as a proxy for that. If the size of the relevant age groups has gone down during the period under review, this proxy is low or better too low. The indicator scoe on the synthetic cohort is therefore too high.

Figure 23: Changes in the number of 18 years olds in population, 1990=100



The figure shows some remarkable differences between the countries. Sweden, the UK and the Netherlands have had a decrease of the 18 years old cohorts in the early 1990s. In the UK this decrease was followed by a strong increase in the second half of the decade, whereas in Sweden and the Netherlands, the situation more or less stabilized. In the USA, Canada and Finland, the first half of 1990s showed a growth of the 18-years olds cohort. This growth was followed by stabilization in Finland, but in the USA growth continued. Canada shows a less fluctuating, rising trend. These differences suggest that comparisons of entry rates between growing and declining countries may be biased.

3.7.2.5 Delayed entry

Most indicators are based on the 'standard' situation that secondary school leavers enter higher education immediately after graduation. However, a growing number of secondary school graduates postpone their entry with one or more years. In addition to this, the number of mature students is also growing. How does this delayed entry affect the scores on the indicators?

How often delayed entry occurs can be deduced from the age distribution of new entrants (or even enrolment) (see appendix 2).

The entry rate indicators are not affected by delayed entry, assuming that the delay is less than seven years. The initial participation indicator and the varying pathways indicator may be influenced by delayed entry. If part of the new entrants delays its entry, the age distribution of new entrants will be flatter, which leads to a lower coverage of the 4 year age range. Using a flexible instead of a fixed four years age group reduces the potential bias by delayed entry significantly (as was shown in section 3.4.5).

The extended participation indicator may be biased the same way the initial participation indicator may be biased but the length of the reference period (seven years) makes the possible impact less significant.
The corrected sum indicator is not affected by delayed entry.
The assessment of the impact of delayed entry on the indicator scores is relevant only for delayed entry of young people. If delayed entry comprises entry of adults as well and if that entry is a significant part of entry, the situation is different. In that case, only the broad scope entry rates (like the OECD definition) takes that entry into account. The other indicators cut mature entry out of the definition.

3.7.2.6 Mode of enrolment

If enrolment is measured as headcount and not as fte (as it is in most countries) enrolment based indicators will be affected by the mode of enrolment. Part time students are enrolled for a longer period, which has an upward biasing, effect on the scores. The initial participation indicator is based on full-time enrolment only. In countries with substantial part-time enrolment, the coverage of the indicator is, compared to countries where part-time enrolment is relatively low or non-existing, relatively low, leading to a relatively low score. In two countries, Finland and Sweden, students cannot enrol as part-time students. However, the ratio of time to degree and length of program is that high that it is plausible to assume that in these countries, de facto part-time enrolment exists. This potential comparative bias has been one of the reasons to introduce the varying pathways indicator. The varying pathways indicator is not as much affected by the mode of enrolment as the initial participation indicator. More part-time students will ‘thicken’ the tail of the age distribution of enrolment, but it is unlikely that the reference group (the four largest age groups of new entrants) will change. New entrants based indicators are not affected by mode of enrolment. Differences in the proportion of part-time students may affect the comparability of the scores of the extended participation indicator. Part-time students are enrolled longer than full time students and therefore are more likely at the end of their educational career to fall outside the standard reference period of seven years. More part-time may therefore lead to an underestimation of the true score. The extent to which that will happen depends on the proportion of part-time students that is enrolled more than seven years. The corrected sum indicator is in principle not affected by the mode of enrolment. More part-time students will lead to a longer average duration of stay, which is taken into account in this indicator.

3.7.2.7 Overview

Table 7: Tentative evaluation of participation indicators

	Coverage	double counting	feasibility	robustness	delayed entry	mode of enrolment
entry 17-70 (OECD)	++	++	-	-	++	++
entry 17-30 (HEIPR)	+	++	0	-	++	++
entry 17-25 (HSV)	0	++	0	-	++	++
entry true cohort	0	++	-	+	++	++
Initial participation	-	+	0	+	+	-
varying pathways	+	+	+	+	+	+
extended participation	0	-	+	+	0	0
corrected sum	+	-	-	-	+	+
graduation rate	-	--	--	0	0	0

++: very low risk on biased result
+: low risk on biased result
0: average risk on biased result
-: high risk on biased result
--: very high risk on biased result

The evaluation as summarised in table 7 is tentative for a number of reasons. First the number of countries included in this study is relatively small. The score on feasibility may therefore change when more countries are taken into account. Furthermore, the evaluation is done for each criterion separately. However, it is likely that the criteria are not independent from each other, possibly leading to interaction. This is one of the main reasons why there is no overall score on the indicators. How relevant the various criteria are depends on the national settings.

The impact of the differences in national settings and the potential interaction between the criteria may be illustrated by the issue of short degrees. In some countries, like the UK and the Netherlands, short degree programs are seen as a way to increase participation in higher education. In the Anglo-Saxon countries, short programs are a substantial part of undergraduate education, whereas in other countries (the Netherlands, Finland and Sweden), short programs are only a small part of undergraduate education or even non-existing.

The existence of short undergraduate programs may have an impact on the criteria for evaluating the indicators, as well as on the interpretation of the scores. As we saw earlier, more short programs will enhance the danger of double counting. In addition, students in short programs tend to enrol more as part-time students than students in first-degree programs. The existence of short programs has also an effect on the

capacity of the higher education systems. If there are more students enroled in short programs, the capacity of the system will be higher than in the situation where no short programs exist; more students can be accommodated because they stay shorter in the system. The extended participation indicator does not capture this effect very well; the corrected sum indicator does a better job in that respect.

The scores on the evaluation criteria may be used by policy makers as an input into the decision what indicators for participation in higher education to choose. An even more important into that decision is the score on an evaluation-criterion not yet addressed: the validity of the indicator. That score depends on the goals the policymakers have set for access policy. In the final chapter this issue will be discussed.

4 Discussion

The descriptions and analyses of the previous two chapters give rise to a number of observations and conclusions.

Describing access and participation rates requires a multiple perspective.
Based on a system view on higher education, three aspects of access/ participation indicators can be distinguished: entry, participation and output. To get a comprehensive picture of participation, all aspects should be addressed. This cannot be done with a single indicator.

Single indicators cannot take into account all system characteristics that may have an impact on the measured rate of participation. The indicators described address various systemic characteristics.

- Entry rate indicators describe opportunities to get a higher education experience, regardless the intention with which higher education is entered
- Entry rate indicators based on a broad age group (like the OECD definition) are more likely to comprise a substantial proportion of new entrants who seek higher education for personal development, rather than for increasing their productive human capital.
- The initial participation indicator focuses on the young students who are in all countries the bulk of full time higher education participants. Combined with the extended participation indicator, it gives also an idea of the distribution of enrolment: whether enrolment is concentrated in the young age groups or dispersed over a broader range of age groups.
- The varying pathways indicator provides similar information but its wider scope (including part time enrolment) captures a broader range of students.
- The extended participation indicator has an even wider scope to capture students in long programs and students who take longer time to complete. Differences in national program structures have an impact on the scores since a standard reference group is used.
- The corrected sum indicator has the broadest scope. Because of the way the (estimated) time to degree is incorporated in the formula, a high score may mean a high rate of participation or a high proportion of students enrolled in short programs or a close match between time to degree and length of program.
- Output indicators are supposed to signal the production of higher education systems or, in combination with a participation indicator, the efficiency of those systems.

In the previous chapter, scores on individual indicators are presented using bar charts and line charts. To characterise the situation in a country regarding access and participation from a multiple perspective the scores may be presented in radar charts can be used.

The diagrams (see *Figure 24*) show a fairly consistent picture: Finland scores high, Sweden and the Netherlands follow at a distance, and the USA and Canada are at the bottom end of the list, with the UK scoring slightly higher.

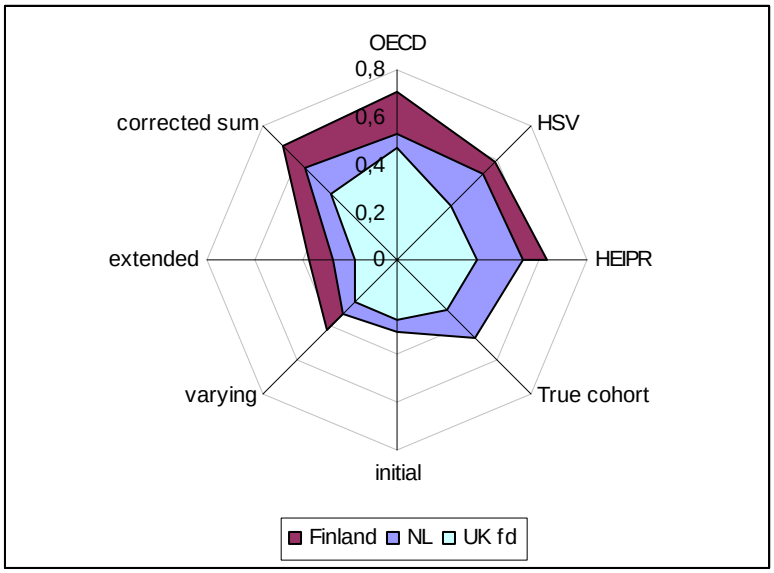
An important purpose of the profiles is to convey not only an idea of the absolute level but also to identify on what aspects of access and participation countries differ from each other. Using absolute scores are not very suitable for that purpose since the shape of the country profiles is influenced by the average level of the various indicators. The scores on the extended participation indicator for example, are on average lower than the scores on entry rates indicators. To correct for this distortion, normalized scores can be calculated and plotted. In normalized scores the average score of the six countries is used as the reference point for characterizing access and participation rates[41]. An even or circular shape means that a country does not differ from the average of the six countries regarding the systemic factors that may influence the scores. A shape skewed towards one or two indicators points at system characteristics that differ from the rest of the group.

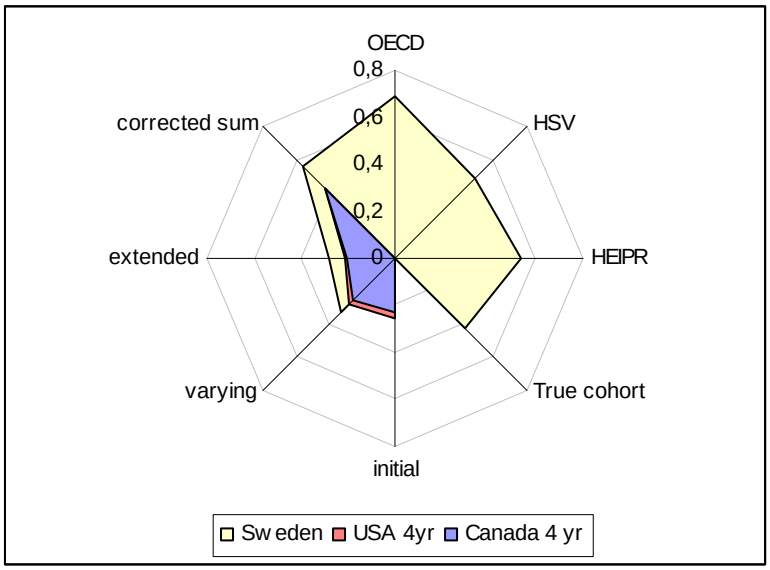
The normalized scores (see Figure 25) show that Finland scores much higher than the average of the six countries. It shows also that the relative score on the corrected sum and the extended participation indicators is higher than on the entry rate scores. This 'skewed' image flags that students are enrolled in higher education for a relatively long period of time. The Dutch profile is slightly skewed towards the entry rate indicators, which means that there are slightly more new entrants. The high score on the true cohort indicator may point[42] at a different demographic situation (in the past). The little bulge in the UK on initial participation may point at a more than average concentration of enrolment. The relative low score of Canada on that indicator points at amore dispersed enrolment pattern.

[41] A score of 0 means that the country has the same score as the average of the group. If the score is one, that country has a score that is one standard deviation higher than the average of the group.

[42] The average on this indicator is based on only three countries, which makes the basis for such analyses rather narrow.

Figure 24: Scores on 8 access and participation indicators, 2003





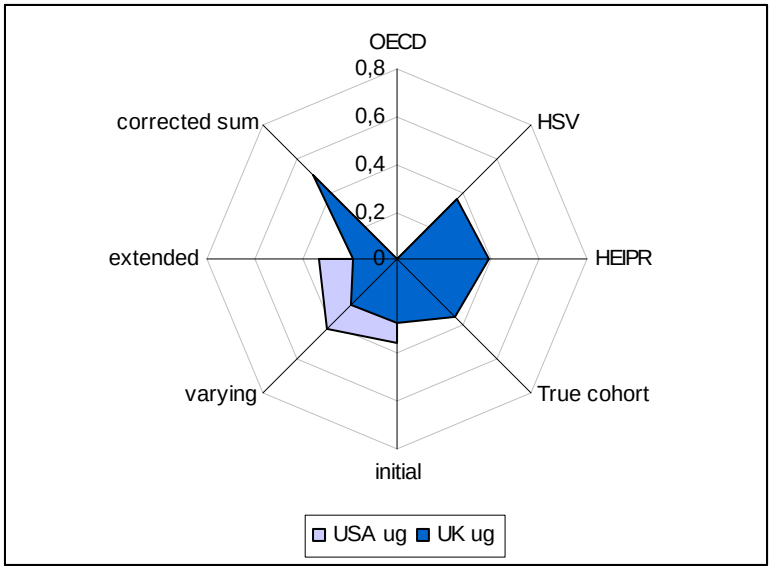
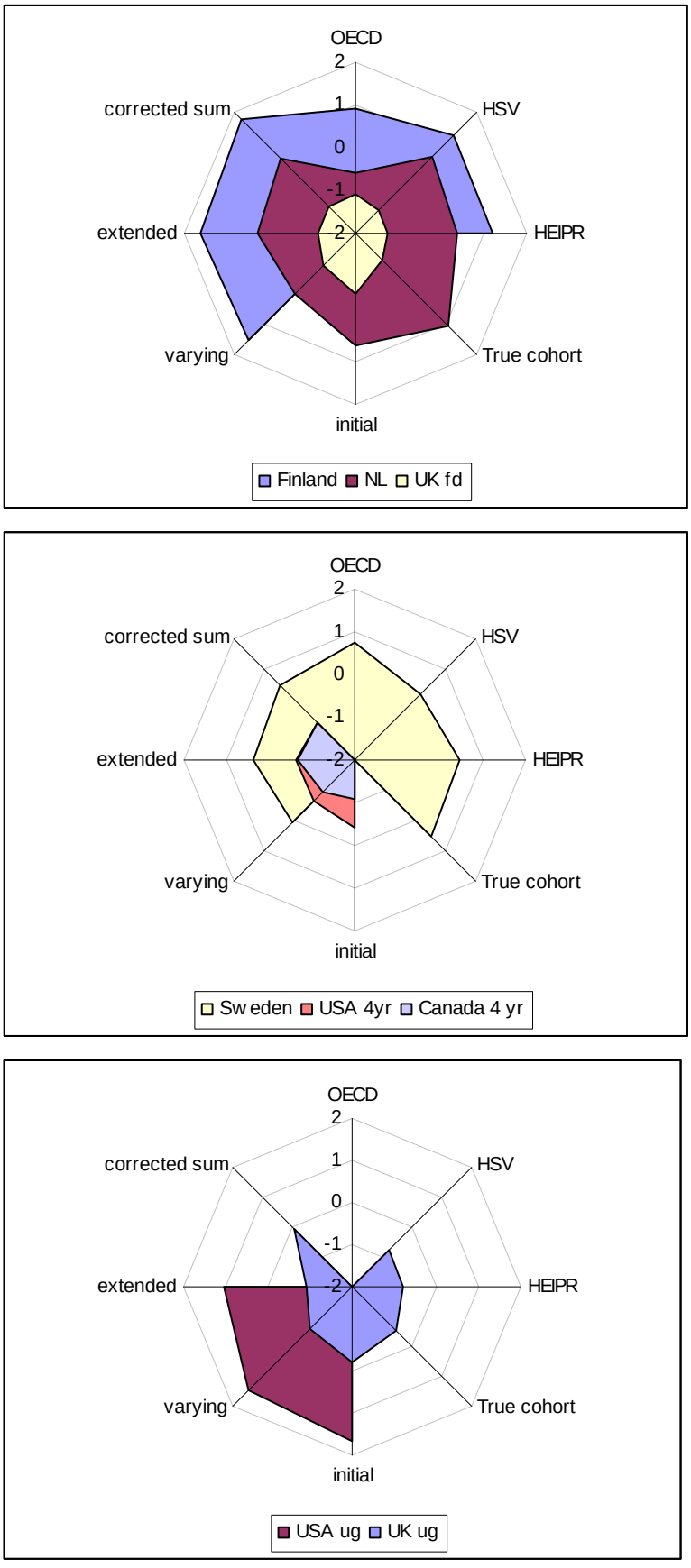


Figure 25: Normalised scores on 8 access and participation indicators, 2003



The indicators on access and participation are not yet fully matured

Based on the concerns regarding the individual indicators expressed in chapter three and results of the evaluation of the indicators at the end of that chapter it can be concluded that the indicators need to be further developed and that the availability of data needs to be improved. The full set of indicators could be calculated for only two countries, which leads to distortions[43] in the comparative profiles.

Improving the availability of data requires substantial effort in a number of countries. Whether all countries think that is worthwhile depends (partly) on the national policy context. In countries that have a policy focus on access (England, Sweden and to some extent the Netherlands) data on entry proved to be available. In Canada and the USA, where there is no clear entry oriented policy context, availability of entry data is problematic.

For those countries that have a strong output orientation in their access policies (like the Netherlands and Finland) the situation is indicator wise very problematic. The output indicators described in chapter three proved to be inadequate for monitoring output from an international comparative perspective. An alternative way to have some indication of the production of the system is to combine entry data (or participation data) with information on the efficiency of the higher education system (like completion rates). Unfortunately, comparable information on completion rates across countries is not readily available either.

Having data available to inform relevant *national* policy issues is not the only reason to make an effort to make data available. There is also a growing need for international comparison and benchmarking. European policies like the Lisbon process and globalization process in general have lead to a substantial growth in the demand for comparative quantitative data in a large number of public sectors, including higher education. These processes may become a strong driver for changes in the availability of data.

Contextualisation of information derived from indicators is crucial

As was indicated in the previous chapter on several occasions, contextual information, like the national program structure, modes of enrolment and types of higher education institutions is crucial for a valid interpretation of the scores on indicators. One important element of the context was addressed in the first chapter, i.e. the demarcation of the concept of higher education. The role of short programs has proven to be crucial in this respect. In the USA and in Canada, 2 year colleges offer a variety of programs, only part of which is geared towards transfer to higher education. Whether these transfer programs may be seen as higher education programs is

[43] Shapes are 'incomplete' and the averages are based on too small number of cases.

questionable.[44] Including participation in such two year programs, as is done for the USA in most international comparisons, yields a much higher rate of participation as when narrowing the scope to first degree programs. In the English system there are no disputes whether short programs are part of higher education. In fact, expansion of enrolment in such programs is seen as the main way to achieve the 50% participation target. The Finish, Swedish and Dutch data are not broken down in short and first degree programs. However, in Sweden there are short programs but the modular structure of part of the system makes it not possible to identify and breakout enrolment in short programs. Without such information (see appendix 1) a valid interpretation of the indicators is troublesome.

The spread of quantified targets for access policy has made the development and interpretation of quantified indicators for participation in higher education an important issue in higher education policy related research. Although one might say that the targets set have a strong political character and should not be seen as very precise targets, these targets are used by national governments (both by the government that has set it and by governments that use them as benchmarks for their own policies) and are used to base higher education policies on.
There is no question that system differences continue to make it difficult to compare international participation rates. Although the Bologna process will help to create more transparency in the future national differences will remain, both in systemic characteristics and in policy contexts. The use of indicators will become more feasible and relevant, but contextualizing that information, both by combining the information from several indicators and by the analysis of qualitative information remains indispensable for a valid interpretation of those indicators.

[44] In the USA, the success rate of transfer students in getting a degree is very low. In Canada the transfer programs can be considered to be the high end of upper secondary education, making graduates eligible for access to higher education.

1 Appendix A: The national systems of higher education

A.1 Introduction

This appendix comprises a detailed description of the national higher education systems. The major aspects that are relevant for describing and understanding access and participation in higher education are described.

A.2 Canada

A.2.1 Types of institutions

Some history

By the time of Confederation in 1867, there were 17 colleges in Canada, only four of which were independent of denominational control. The British North America Act assigned the provinces exclusive jurisdiction over education, and that act presaged the shape and character of the Canadian university community that was to grow with the rest of the country.

Large-scale government involvement in higher education began during the early years of this century when Canada's four western provinces--British Columbia, Alberta, Saskatchewan and Manitoba--set up provincially chartered universities similar to the land grant colleges that were being established in the United States.

While the Canadian constitution gave the provinces explicit authority in matters relating to education, the federal government was accorded a role in looking after education in the northern territories, and in responding to the educational needs of aboriginal people, members of the armed forces and inmates of federal correctional institutions.

The infusion of public funds, both federal and provincial, paralleled a period of spectacular growth in university enrolments, the number of Canadian postsecondary institutions, research capabilities and program offerings. In the seven years between 1955 and 1962, full-time university enrolment doubled. It doubled again between 1962 and 1969. Meanwhile, 19 new universities were given provincial charters to accommodate the burgeoning ranks of Canada's knowledge-hungry baby-boom generation.

More than 90 institutions of higher learning make up the membership of the Association of Universities and Colleges of Canada offering a wide variety of educational settings. Some large, providing a full spectrum of undergraduate professional and graduate degree programs national and international importance.

Others provide the intimate atmosphere of small, undergraduate liberal arts colleges. Still others offer specialized professional education in fields such as engineering, art and design or agriculture.

A number of Canadian universities have retained their denominational affiliations while aligning themselves with larger institutions and holding some or all of their degree-granting powers in abeyance. There are universities that specialize in distance education -- a field in which Canada is a world leader. Canada is also a pioneer in cooperative education, and an increasing number of universities offer programs that allow students to combine their studies with practical, on-the-job experience. Many universities also offer exchange or co-op work term programs overseas, allowing students an opportunity to study abroad for degree credit in Canada.

University enrolments continued to grow throughout most of the succeeding decades, largely as a result of the increased participation of women. From 1961-1962 to 1991-1992, the participation rate of women increased eight-fold. Today, more than half of all full-time university students are women. About one in four is over the age of 24.

In 2005, there are more 90 universities. In addition to this traditional higher education sector, there is a substantial post secondary non-university sector. Although the names of the institutions in this sector differ by province, they are commonly referred to as (community) colleges.

A.2.2 Types of programs

In Canada, universities are the educational institutions attended after secondary school for studies leading to a degree. Community colleges are non-degree granting postsecondary institutions offering technical or vocational courses or courses for transfer to a university[45].

A number of universities across Canada are entering into joint ventures with neighbouring community colleges, allowing students to combine their academic studies with the more-applied learning opportunities that are generally found within the community college.

Undergraduate programs leading to a bachelor's degree generally require three or four years of full-time study, depending on the province. In provinces that offer three-year bachelor's degrees, an additional year of study is usually required for an honours

[45] In Quebec, the equivalent institutions are called CEGEPS (colleges of general and vocational education).

degree. Elsewhere, an honours degree generally involves a higher level of concentration and achievement within the honours subject, but not necessarily a further year of study. An honours degree is generally considered a prerequisite for study at the graduate level.

Degree requirements are set by each institution. At the undergraduate level, they usually involve a concentration in a particular subject - a major- and they often require attaining a particular grade point average for graduation. At some universities, first-year students are required to take one or more mandatory courses.

First professional degrees, also at the bachelor's level, can either involve four years of full-time study after secondary school, or an additional year or two after the completion of an undergraduate degree in arts. In the case of law, three years of full-time study are typically required to complete the degree.

Many universities offer a range of certificate and diploma courses, both at the undergraduate and graduate levels.

Master's degrees generally require at least one year of full-time studies including a thesis, practicum or research paper. Doctoral programs, usually leading to a Ph.D., require a minimum of three years of full-time study, at least one of which must be spent on campus. While a master's degree is generally required for admission to doctoral studies, some universities allow students to gain admission directly from an undergraduate honours program.

Most community colleges (or their equivalents) offer two types of programs: career and technical, and university transfer programs. Enrolment in the latter is around 29% of total enrolment in community colleges[46]. Enrolment in university transfer programs was in 1999 slightly less than 20% of enrolment in university undergraduate programs.

A.2.3 Admission/selection

Admission standards vary from university to university and from program to program within the same institution. For undergraduate programs in the arts and sciences, successful completion of a secondary school academic program is the normal prerequisite for admission. Students entering university from Quebec are normally required to complete two years of CEGEP beyond Grade 11. A high level of academic achievement is often required for admission to professional degree programs such as engineering, business administration, education and journalism.

[46] Source: Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program 2003, tab D1.8, online available at http://www.cesc.ca/pceip/PCEIP2003en.pdf

Each Canadian university sets its own admission standards and assesses the qualifications of each applicant individually. There is no national policy regarding equivalencies of qualifications earned abroad. There is no Canada-wide entrance test.

A.2.4 Modes of enrolment

Students in Canadian universities (and colleges) may enroll as full time student and as part time student. Almost one quarter of students enrolled in 4 year programs were enrolled as part time student. This proportion was less for the age groups younger than 23 years and (considerably) higher for older age groups. Part time enrolment in graduate programs was (in 2001) around one third of total enrolment. Part time enrolment in university transfer programs of community colleges was in 1999 also around 25%.

A.2.5 Fees

As in many other countries, tuition fees have been on the rise in most parts of Canada in recent years – to offset, at least in part, declines in the per student level of government support . Tuition fees vary by province, by institution and by program within institution. The average tuition at Canadian universities is in 2005 just over $4,000 a year. In most jurisdictions, international students face surcharges over and above tuition fees charged to Canadians.

The Canada and Quebec Student Loan Plans provide financial assistance to Canadian students, based on financial need. Student aid for Aboriginal students are funded through the federal government's Postsecondary Student Assistance Program. Provincial governments offer student assistance programs as well, and most universities provide scholarships to entering students with exceptional ability. At the graduate level, there are university scholarships, fellowships, and teaching assistantships, as well as grants through the federal research granting councils.

A.3 Finland

A.3.1 Types of institutions

Universities[47]

There are altogether 20 universities in Finland: ten multi-faculty universities, three universities of technology, three schools of economics and business administration, and four art academies. Geographically, the network covers the whole country. The University of Helsinki is the largest and the Academy of Fine Arts the smallest. University-level education is also provided by the National Defence College, which comes under the Ministry of Defence.

The basic mission of universities is to carry out research and provide education based on it. The underlying principle in university education is the freedom of research and university autonomy, which gives them extensive latitude for independent decisions. All Finnish universities are state-run, with the government providing some 65 % of their funding. Each university and the Ministry of Education conclude a three-year agreement on target outcome to determine the operational principles. The most important legislation governing the universities are the Universities Act and Decree, the Decree on the Higher Education Degree System and field-specific Decrees, which lay down, among other things, the responsibility for education in a given discipline, degree titles, and the structure, extent, objectives and content of education.

Polytechnics

The polytechnics (AMK) are more practically oriented, training professionals for expert and development posts. There are 29 polytechnics in Finland; most of them are multidisciplinary, regional institutions, which give particular weight to contacts with business and industry. Polytechnics are developed as part of the national and international higher education community, with special emphasis on their expertise in working life and its development. The polytechnics also carry out R&D relevant to their teaching and to the world of work.

Open University and Open Polytechnics

At 19 universities, Open University courses are provided. These courses are accessible for all people and have a general character. Next to personal development, these courses can be used also as a stepping stone towards obtaining a normal higher

[47] Source: website ministry of education

education degree. At the end of the 1990s the open polytechnics started. All polytechnics offer at least some open courses. The open polytechnic is open to everyone, no previous education is necessary and there are no age restrictions. Following the model applied also at the university sector, open courses are delivered by the educational institutions themselves without any national organisation. At the open polytechnic one can take individual courses contributing to a polytechnic degree. Although open polytechnic studies are produced by the regular AMK institutions, the studies as such do not give the right to transfer to a degree program. Instead, students who want to complete a whole degree have to go through the normal application procedure. If one is accepted, one can use the credits earned at the open polytechnic. Though as a rule, the open polytechnics are meant for those who are not trying to gain a whole degree, but for those who are interested in following just some courses on a polytechnic level.

A.3.2 Types of programs

The polytechnics award professionally oriented higher education degrees, which take 3.5 or 4 years. The entry requirements are either an upper secondary school certificate or a vocational diploma. At present about 70 % of all entrants are matriculated students and 30 % vocational graduates. The Ministry of Education confirms the degree programs.

At universities, *maisteri* degree programs are identified with a number of study years, and equal a certain number of Finnish credit points. The 160 (Finnish) credits *maisteri* programs are regarded to be a 5-year qualification, while the 180 credits *maisteri* programs in technology are seen as equalling 5.5 years of study. The average study time for the 160 credits *maisteri* degree is more that six years and for the 180 credits degree in the field of technology close to seven years.

A.3.3 Admission/selection

The Finnish *Matriculation* examination gives general eligibility for university education. In addition, those with post-secondary level vocational qualifications can apply for a study place in a university. The qualification needs at least 12 years of schooling. Universities may also admit an applicant who is otherwise considered by the university to have the knowledge and skills necessary for the studies. The majority of new students have completed the matriculation examination.
A person who has had his/her school education in another country can be admitted if his/her qualification gives eligibility for university studies in the country in question. Finland has ratified the European general convention and the supplementary protocol on the equivalence of the different diplomas leading to admission to universities, as well as the Nordic convention on admission to higher education.

Universities select their own students, and they decide on the field-specific student intake according to agreed target number of degrees. The numbers are determined in target outcome consultations with the Ministry of Education. There is a restricted entry, numerus clausus, to all fields of study. Because the number of applicants is manifold compared to the student intake, universities use different kinds of selection criteria. Students can be ranked according to a) the grades given in the matriculation certificate (and in the upper secondary school leaving certificate) together with the results of an entrance test, which is the most common procedure; b) the results of an entrance test only or c) the grades given in the matriculation certificate and in the upper secondary school leaving certificate only.
In addition, some fields may grant additional points for work experience, studies, practical training, etc. Entrance tests are designed by an institution, faculty or department to assess the applicant's interest, suitability and talent in the field concerned. The tests are often based on required reading. There may also be an interview, and students can be required to demonstrate their skills (e.g., in art academies). Non-matriculated students are usually selected on the basis of the entrance test.

A student who has studied in Open University *avoin yliopistomay* will also be granted the right to study at a university for a degree. In this case the student must have already completed at least one third of the studies included in the degree program. Universities decide on the selection procedure

The general requirement for admission to AMK institutions, is general or vocational upper secondary education. In other words, the following applicants qualify for AMK studies: those who have taken the Matriculation examination, or completed upper secondary school, or have a vocational basic qualification (or post-secondary qualification), or a corresponding international or foreign qualification. Students apply for AMK institutions through the joint national application system.
The AMK institutions determine themselves the principles of student selection.

A.3.4 Modes of enrolment

Enrolment as part time student is not possible. However, students take considerable longer to complete their study than the formal length of the program (when studied in full time).

A.3.5 Fees

There is no tuition fee for degree studies.

A.4 The Netherlands

A.4.1 Types of institutions

The Dutch higher education system is a binary system and consists of 13 universities and 44 *hogescholen*. Besides the 13 traditional research universities, a number of small "designated institutions" are part of the university sector: a university for business administration, four institutes for theological training and a humanistic university, as well as several international education institutes. These are formally part of the higher education system, but are usually not included in the educational statistics and only to a limited extent are they influenced directly by overall higher education policy. Next to *hogescholen* and universities, higher education in the Netherlands is also provided through the Open University, located in Heerlen.. The Open University offers a wide range of courses, which may lead to both formal university and higher vocational education degrees.

A.4.2 Types of programs

The programs new entrants can choose have changed dramatically in 2002. Starting academic year 2002/2003, new entrants may choose to enter bachelor or master programs only. Before 2002, the university programs in general used to lead to the degree of *doctorandus* (drs), a qualification comparable to the Master's degree. Exceptions to this rule were: students completing programs in law are awarded the degree of *meester* (mr) and students finishing a program in engineering or agriculture and natural environment may use the title of *ingenieur* (ir). Almost all programs had an official duration of four years; consisting of a propaedeutic year (the first year of study) and a "doctoral" phase, lasting three years. Most technical programs lasted five years (210 credits) and a few medical programs (including veterinary science) as long as six years (252 credits) (WHW, article 7.4).Hogescholen provided four years programs ((including one year practical work –stage-).
Since 2002, the bachelor master structure is the only option new entrants have. University Bachelor programs are now three years, HBO-bachelors four years (including one year practical work –stage-). For master programs the situation is differentiated. The professional masters provided by the *hogescholen* are one year. The regular master at university is either one or two years. The two-year masters are offered in the subjects that previously lasted five years (science and technology). The research master takes two years.

Recently (June 2005) experiments have been announced with the introduction of two-year associate degrees at the *hogescholen*. These undergraduate degrees have a strong vocational orientation and should be embedded in regular HBO bachelor programs.

A.4.3 Admission/selection

Pupils with a *havo* diploma have access to *hogeschool* programs. Pupils with a *vwo*-diploma have access to university bachelors and *hogeschool* programs. There are additional criteria for certain subjects.

With regard to access to higher education, we can state that most programs and institutions in Dutch higher education require only the minimum entrance requirement of holding a qualifying secondary education qualification and so there is open access. However, to enter particular higher education programs, e.g. in science and engineering subjects, *hogescholen* and universities often require prospective students to have passed secondary education examinations in particular subjects, like mathematics, physics, biology or chemistry. Only in a very limited number of programs is the number of study places restricted, requiring selection procedures to choose and allocate the applicants.

In general, the Dutch government has a policy of open access to higher education, which actually means that all who meet the basic entrance requirements are admitted to the program of their choice. However, not the entire Dutch higher education system has (always) been subject to policies of open access. Due to limitations in the carrying capacity of the system, some programs have been subject to restrictive entrance policies. These are known as the numerus fixus programs for which student demand exceeds the capacity. For those programs a numerus fixus is applied.48 There are two types of numerus fixus: the institutional fixus and the program-fixus.

In the case of an institutional fixus, a particular higher education institution has a capacity shortage in a particular program. This unmet demand may be redirected to other institutions that offer the same (type of) program and that still have some capacity to enrol students. A government agency (the Informatie Beheergroep, IBG) then determines how students will be distributed over the institutions that offer the program at stake.49

The program-fixus (also known as the labour market fixus) is applied when the expected outflow of graduates of a specific program exceeds the 'expected needs of the labour market'. This particularly goes for programs like medicine, dentistry, veterinary sciences, physiotherapy, nursing and architecture. Though the 'acceptable' number of new entrants is determined by the government, the professional groups in these branches are often very influential in setting the entrance quota. Consequently, a number of applicants will not be able to take up their preferred course. They have to select a different program, go abroad, or try again next year.

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[48] In 2003, there are 13 HBO programmes with a numerus fixus (5630 applicants, 3258 admitted). Most of them are in the health sector. In the university sector, six programmes had an institutional fixus (1369 applicants, 1050 places), three had a programme fixus (medicine, veterinary medicine and dentistry) (6542 applicants, 3375 admitted) source: http://www.ib-groep.nl/.

[49] The IBG is the government organization that manages the whole application processes for higher education as well the provision of the student support.

Over the last few years, the number of institutions and programs with a fixus has slightly declined and the labour market is absorbing more graduates than ever and the demand for highly skilled labour is expected to even further increase. Apparently, the "carrying capacity" of the system has substantially increased. A potential explanation is that the previous decades have shown a tremendous growth of the public sector demanding large numbers of highly trained employees. Not only in all kinds of government bodies, but also in the health care and education system. In addition has the Dutch economy shown a major transformation from manufacturing industries and agriculture towards a more knowledge-intensive service-economy. Whereas the production industries are moving abroad, the Dutch labour market becomes more and more service oriented. These developments may also partly explain the feminisation of higher education.
Below we elaborate on the mechanisms used to select students.

Selection mechanisms
In 1996-97, there was a heated public debate on the merits and flaws of the lottery system that was used for a long time. The debate was triggered by the rejection in two consecutive years of a student with almost perfect marks (9.9 out of 10) for access to a medical program. However, other reasons have also persuaded the minister to have the weighted lottery system reviewed. The revised system should enhance the influence applicants have on their chances to be admitted, either by taking into account work experience or by demonstrating high motivation or the input of extra effort. It should reduce the element of chance and thereby the uncertainty for applicants. It was also felt that the then existing system (which was introduced in the 1970s) was no longer in line with the profoundly changed relationship between government and the higher education institutions. Since the late 1980s, higher education institutions have gained much more autonomy than they had in the 1970s. Changes in secondary education, which were to stimulate the development of social and learning competencies, were another drive for the intended change. It was expected that the pool of applicants would become more heterogeneous because of those changes and because of the expansion of higher education.

Weighted lottery
To give everyone an equal chance to enter the numerus fixus programs, a lottery system is used. Those applicants with very good marks on the qualifying secondary education examinations (on a scale of 0 to 10, 8 or higher) have direct access. In 2002, around 9% of the applicants for numerus fixus university programs were admitted on this criterion. The percentage for HBO applicants was around 4%. Other applicants have to participate in a weighted lottery. The weights are determined by the average mark of the qualifying examination. Applicants may participate in a lottery three times. At least half of the applicants accepted have to be allocated by the lottery

system. In 2002, 74% of the applicants for numerus fixus university programs were admitted through the lottery system. The percentage for HBO applicants was around 63%.

Decentralised selection

The new 1999 law regulating access introduced decentralised selection. For those places that are not filled by direct (merit based) access or by the central lottery system (see above) higher education institutions may select applicants themselves, using their own criteria. These criteria may (and do) differ by program. Decentralised selection was to set up to enhance the influence a student may have on his or her chances to be admitted to a program. Institutions use it to select those applicants with special motivations or specific talents.

In 2002 this experimental regulation was evaluated. The evaluation showed that higher education institutions do not use the decentralized selection to the fullest extent. Only 17 percent of new university entrants in numerus fixus programs were selected by the institutions themselves. For the HBO programs, the percentage was twice as high. The number of programs for which decentralised selection was used was rather limited (12 in the universities and nine in the *hogescholen*).The time consuming development of selection criteria and the easing of capacity restrictions were the main reasons for this 'meager' result.

Apart from the (experimental) decentralized selection higher education institutions may select for a number of specific programs (21 in 2005). This type of selection has a much longer history. These programs require specific skills or abilities (e.g. art colleges). This type of selection does not necessarily refer to numerus fixus programs.

In June 2005 experiments have been approved to introduce selection for a limited number of high quality programs. The rationale for these experiments is to given the exceptionally talented students the opportunity to use their talents in high quality programs.

A.4.4 Mode of enrolment

Students may chose to enroll as fulltime student (850 hours or more per year), part time student (less than 850 per year) and as *duaal* student (combination of working and learning). The part-time and *duaal* option are not available for all programs.

The total study load (168 credits) of part-time programs is equal to full-time programs, but students have on average a smaller study load per year.

Students enrolled as part-time students are not eligible for student support.

Students with foreign nationality, enrolled in degree granting programs are counted in the official statistics. Foreign exchange students (students participating within the framework of exchange programs like Erasmus) are not counted; Dutch students

going abroad within such a framework are still counted as being enrolled in the Netherlands.

A.4.5 Fees

In 2005 full time students pay an annual tuition fee of €1496 to the higher education institution. Part-time students may be charged a higher tuition fee.

A.5 Sweden

A.5.1 Types of institutions

Higher education is provided in three institution types: universities (*universitet*), university colleges (*högskola*), and single-faculty institutions. The university system consists of 11 institutions: Uppsala, Lund, Göteborg, Stockholm, Umeå, Linköping, Karlstad, Örebro, Växjö, Luleå University of Technology, and the University of Agricultural Sciences. In addition there are three private universities: the Stockholm School of Economics, the University College of Jönköping and Chalmers University of Technology. Just below the universities are the university colleges. Marked by a wide variation in size and programmatic offerings, some conduct research and provide advanced training whereas others are limited to only a few, professional programs like teaching, education, and business administration.
Finally, there are the single-faculty institutions (e.g. the Karolinska Institute of medicine and dentistry), the Royal Institute of Technology, the Stockholm Institute of Education and the University College of Physical Education and Sports), and 9 colleges of fine arts, most of which are located in Stockholm.

A.5.2 Types of programs/ degrees

The Swedish higher education system was decentralised in the early 1990s. As a result the government now sets degree frameworks and conducts quality controls but leaves decisions regarding course content to the institutions themselves.
Institutions are free to structure courses and programmes according to their own needs, but using a common credit system. This provides students a greater measure of control over their own education. Programmes are structured and grants allocated in response to student demand.

Undergraduate students can pursue either a general or a professional first degree:
General degrees:
1. Diploma (*högskoleexamen*): is awarded after completion of at least 80 points (two years). Diplomas are offered by all universities, university colleges and colleges of Health Sciences. Each institution determines the contents of a program leading to a Diploma.
2. Bachelor's degree (*kandidatexamen*): is awarded after completion of at least 120 points (three years) of which 60 points must be in a major subject and 10 points in a thesis. All universities and university colleges, except for the colleges of arts, offer this degree.
3. Master's degree (*magisterexamen*): is awarded after completion of at least 160 points (four years), including 80 points in a major subject and either 20 points in one

thesis, or two theses consisting of 10 points each. Universities and some university colleges offer this degree. In Sweden it is regarded as an undergraduate degree and should not be confused with the licentiate degree. Students also have the option of taking a professional master's degree (*Magisterexamen med ämnesbredd*). It is awarded to students already having a bachelor's degree and who have taken 40 additional study points within a particular area decided by the institution.

Professional degrees

Professional degrees (*yrkesexamen*) are awarded upon completion of programs of varying length (two to five and a half years) that lead to work in specific professions including, but not limited to: medicine, dentistry, teacher training, and various engineering programs.

There are no data on new entrants or enrolment by type of program. What is available is the number of new entrants in undergraduate higher education, enrolment in general and professional degree programs and number of graduates by type of program. General and professional degree programs are equally sized (in terms of enrolment). The *Kandidat* is the largest general program (in terms of graduates: 52%) followed by the *Magister* program (42%). The *hogeskolexam* is relatively small.

A.5.3 Modes of enrolment

The distinction between full-time and part-time study is not applicable to Swedish higher education. Courses are the basic building block of higher education in Sweden. You can study related courses towards a full degree or just attend individual courses. A credit system is used to indicate the scope of a course or program. One credit point is equivalent to one week of successful full-time study. One term is equal to 20 weeks, or 20 credit points. Courses vary in length, normally between 5 and 20 credit points. Exams may cover one or more credit points. A course certificate is issued on completion of each course. The course system allows you to design your own programme within the parameters set by your school. One credit point in the Swedish system is equivalent to 1.5 credit points in the European Credit Transfer System (ECTS).

A.5.4 Admission/selection

Admission to any undergraduate higher education program or single-subject courses requires matriculating students to have either: 1) completed one of several forms of secondary school, or 2) reached the age of 25 and have at least 4 years work experience. In addition, all students are required to have achieved proficiency in both Swedish and English at the level of the second-year upper secondary school student. In nearly all cases students must also meet specific requirements for admission. As individual universities and university colleges each employ their own unique

admission criteria, no set requirements can be identified. Criteria may include students' grades from upper-secondary schools, prior coursework completed, writing samples, interviews and specially-designed admissions tests. A standard aptitude test is also frequently used for Swedish students (see below). For professional degrees there are standardized requirements in place, determined by the National Agency for Higher Education.
For single-subject courses, students apply directly to the institution they would like to attend. For most undergraduate programs, applications to through the National Admissions Office for Higher Education (*Verket för högskolservice*).

In addition to upper-secondary final examination marks (or the equivalent), another form of qualification for higher education exists in the form of a Swedish Scholastic Aptitude Test (*Högskoleprov*) which was modeled on the more widely known Scholastic Aptitude Test (SAT) used in the US. First administered in 1977, this non-mandatory examination was originally developed in order to assess applicants who had not received an upper-secondary degree yet qualified for admission under the "25/4" rule. Since 1991-92 however, it has become widely used, in conjunction with students' upper secondary school grade point averages, to determine eligibility for higher education. The test also plays an important role in the national regulations governing admissions when the number of qualified applicants exceed the number of available places. In such instances, regulations state that one-third of applicants must be admitted on the basis of their school grades and another third according to the results of their Scholastic Aptitude Test scores (*Högskoleverket*, 1997a). Its incorporation into national regulations was primarily driven by the governments desire to increase the proportion of upper-secondary graduates matriculating in higher education.

In March 2003, a commission was set up to review the existing regulatory system (from 1997) and submit proposals for new rules governing admission to undergraduate education. The starting-points for the review should be to increase the direct transition of students from upper secondary school to higher education, to stimulate student performance in upper secondary school, reduce the incentive for retaking grades later on and broaden recruitment to higher education. There was also the problem of the applicants with perfect marks, but who lost out by the lottery. The Commission reported in February 2004. The commissioner's main proposals[50] include:

- Basic eligibility to be supplemented by requirements for a minimum Pass grade in the core subjects of Swedish and English and in project work.

[50] See also http://www.regeringen.se/content/1/c6/01/21/91/9fc8a1b6.pdf

- A system of 14 different subject area accreditations to be introduced. Each of these accreditations should comprise two parts: subjects essential for accreditation and additional merit subjects. The essential subjects make up the compulsory entrance requirements, whilst the merit subjects are not entrance requirements, but may give the applicant extra "credits" in the form of merit points. The purpose of linking essential subjects and merit subjects is to provide upper secondary school students with a clear incentive to read languages, mathematics or some other relevant specialist or broad subject.
- There should be three general higher education entrance selection criteria: grades, aptitude tests and a third determined by the individual university/university college. Normally, at least 30 per cent of the places on a particular program should be allocated on the basis of grades, at least 30 per cent on the basis of aptitude tests and at least 10 per cent on the basis of the third individually determined criterion. It should also be possible, however, to make exceptions to this specified distribution if there are special circumstances, e.g. that the program in question is of a continuing or supplementary nature.
- Universities and university colleges should be given the responsibility for more situationally and educationally adapted admissions as part of a locally determined selection criterion. The universities/university colleges should consider and appraise knowledge other than that documented in upper secondary school grades.
- Working life experience should henceforth be awarded significant value in connection with higher education admissions. However, the commissioner proposes that the general and thereby somewhat stereotyped method currently used to appraise working life experience should be replaced by an assessment of its relevance and quality.

The recommendations are proposed to be introduced in 2007.

A.5.5 Fees

There are no tuition fees in Sweden

A.6 UK

A.6.1 Types of institutions

There are around 150 universities in the UK (including 112 in England, 20 in Scotland and 14 in Wales and 4 in Northern Ireland). Although the UK has this unified structure, the university sector (and literature) still refers to a distinction of “old universities” and “new universities” in other words between traditional universities and former-polytechnics.

The “old universities” were all established as universities before 1992. In general terms, the 'old' universities do not provide professional training, although they do provide a range of professionally accredited degree courses including engineering, accountancy, teacher training, librarianship and information science and medical studies. Qualifications specific to a profession and required for its practice are more often obtained through successfully completing examinations set or accredited by professional bodies, such as the Chartered Institute of Public Finance and Accountancy and the Council of Legal Education.

Most of the “new universities” were previously polytechnics. Polytechnics were originally set up by charitable endowment to enable working-class men and women to advance their general knowledge and industrial skills on a part-time or full-time basis. Their role changed with the 1966 White Paper, "A Plan for the Polytechnics and Other Colleges” (GB. Parliament House of Commons, 1966), which described the polytechnics as regional centres of higher education linking industry with business. Since the Education Reform Act 1988, which removed polytechnics and colleges and higher education institutions in England from local education authority control, these have also been autonomous institutions. Permission to use the word 'university' has also been granted to some other higher education institutions.

Next to this traditional higher education system, the Open University was set up in 1969 and is now the major provider of part-time degrees in the United Kingdom. It is an autonomous institution, and is able to award degrees like other universities. Unlike other universities, however, it is financed through the Department of Education and Science rather than through the HEFC.

A.6.2 Types of programs

The universities offer the following degrees[51]:

Level 1:	Certificates of higher education
Level 2:	Foundation degrees, ordinary bachelors degrees, higher national diplomas, diplomas of higher education
Level 3:	Bachelors degrees with honours, graduate certificates and diplomas
Level 4:	Masters degrees, postgraduate certificates and diplomas
Level 5:	Doctorates

Undergraduate programs

Certificates of Higher Education

Higher Education Certificates are aimed at those who wish to study part-time at a Higher Education level without the long term commitment to a part-time Degree. They are offered at Level 1 (equivalent to the first year of undergraduate study) and there are no entry-requirements - all are welcome to apply. To gain a Certificate, students need 120 credits taken in subjects determined by the universities.

Higher National Diplomas

Higher National Diplomas (HNDs) provide an alternative route for students wishing to enter higher education, without studying for a Bachelors degree. HNDs usually last two years, and tend to have a more explicitly vocational focus. Successful completion of an HND can lead to second year entry to a related degree. For some subjects, it's possible to do a one-year top up for an ordinary degree, and further part-time study to convert that to an honours degree[52]. (HERO, 2003).

Diplomas of Higher Education

A Diploma of Higher Education (DipHe) is similar to an HND, but stands as an accredited professional qualification, providing access into professions such as nursing and social work (HERO, 20038).The Diploma in Higher Education was created in 1972 as a two-year course at universities, polytechnics and colleges the DipHE was to be "no less intellectually demanding" than the first two years of a degree course. The 1972 white paper, Education: A Framework for Expansion, identified a gap in routes for school and college-leavers - the choice only of entering employment and studying part-time, or committing to a course lasting at least three years. Only a limited range of two-year courses was available, all in specific

[51] See: http://www.qaa.ac.uk/crntwork/nqf/ewni2001/contents.htm

[52] http://www.hero.ac.uk/studying/types_of_course258.cfm

vocational areas; not much has changed since. The 1972 white paper saw the new courses as a "critical element" in achieving greater flexibility in higher education. The DipHE did not become a major feature of the higher education landscape nor a clear alternative for large numbers of students. The universities hardly touched it, and in the polytechnics and colleges, the numbers on "free-standing" DipHE courses never reached more than about 4,000 (compared with more than 250,000 on first-degree courses in 1990) (Pratt, THES, 2000).

Foundation degrees

Foundation degrees were introduced in September 2001 following proposals announced by the Secretary of State in February 2000.The foundation degrees are in a sense not unlike the diplomas in higher education. They courses aim to fill an alleged gap in provision, as were those of 1972.

Foundation degrees aim to meet the shortage of people with technician-level qualifications and to develop "the right blend" of skills that employers need. There is visible concern that the new courses will be accepted in their own right, not, as the white paper put it, "a cheap substitute" for existing courses. There are, however, differences between the proposals. The foundation degrees are explicitly concerned with vocational aims. The ministry stresses the importance of the necessity to include key skills and knowledge in the degrees that enable graduates to "contribute their full potential in all sectors of the labour market, so meeting the needs of employers" (Pratt, THES, 2000).

Therefore, the degrees have been developed by partnerships of higher education institutions with degree-awarding powers, employers, and further education colleges, supported by the Higher Education Funding Council for England, the National Assembly for Wales, and, in Northern Ireland, the Department for Education and Learning. They are intended to help education providers to address the shortage of intermediate level skills and to widen participation in higher education and stimulate lifelong learning. They are available in employment-related subject areas such as Internet computing; learning support; and hospitality, leisure and tourism. Foundation degrees are intended to be completed in two years or an equivalent period part-time, and are designed to offer opportunities to progress to a first degree (HEFCE, 2002).

First degrees

First degrees include traditional first degrees (the most common are Bachelor of Arts and Bachelor of Science), first degrees with Qualified Teacher Status / registration with the General Teaching Council for Scotland, enhanced first degrees and first degrees obtained concurrently with a diploma. The first degrees are mainly three-year programs. Exceptions to the three-year programs are, for example, language courses (with an extra year spent abroad), extended engineering courses, medicine, architecture, the initial teacher training honours B.Ed., and programs with industrial training (the so-called ‘sandwich courses’). Besides, many degrees in the University

of Keele, and most degree programs in Scottish universities, also take four years. Undergraduate degree programs can be completed at different levels, the lowest level being the bachelor pass degree and the highest level being the bachelor first-class honours degree (the classifications in between are honours second class i en ii, and third class). Bachelor's honours degrees can be divided into three categories: first class honours; second-class honours and third class honours. The difference between a honours degree and an ordinary degree is the study load: for an ordinary degree fewer credit points are obliged.
Some institutions have introduced accelerated two-year degrees, which require students to study during the normal vacation periods. It is now rare for the class of degree awarded to depend completely on student performance in final examinations. First degrees have the title of Bachelor of Science (B.Sc.) or Bachelor of Arts (BA); special qualifications are sometimes awarded for bachelor's degrees in engineering (B.Eng.) and education (B.Ed.). Upon completion of an undergraduate program, three types of programs with different qualifications can be followed: postgraduate diplomas and certificates, master's degrees, and doctorate degrees.

Post graduate programs
Post-graduate degrees may be obtained by successful completion of taught courses or individual research or a combination of these. They are awarded at two levels, Masters' Degrees and Doctorates.
Universities may also award honorary higher degrees (often doctorates) to persons of distinction in academic and public life or to people who have made an outstanding contribution to the university or the local or national community.

Master degrees
Postgraduate qualifications include doctorate degrees, masters degrees, higher bachelors degrees (bachelor degrees with honours) and Postgraduate Certificates in Education (PGCE) (Hesa). Postgraduate certificate or postgraduate diploma programs are generally open to students who have a degree in one discipline and are seeking to broaden their academic background in an additional one. In this sense, the holders of these Postgraduate credentials are viewed as having undergraduate school credentials in the additional discipline. The length of study is usually one year.
A master's degree is conferred after one or two years' study following the bachelor's degree. Masters' degrees usually require a minimum of one year's full-time study (more commonly, two years), or the part-time equivalent. Exceptions are Oxford and Cambridge Universities, where the degree of Master of Arts (MA) is an indication of 'maturity' and not of additional academic achievement. Graduates of these universities (that is, holders of the degree of Bachelor of Arts (BA) may apply ('supplicate') for the degree of Master of Arts (MA) on payment of the appropriate fee, without undertaking any further study or examination.

Common degrees obtained for taught or research Master's (or a combination of both) are: Master of Arts (MA), Master of Science (MSc), Master of Business Administration (MBA), Master of Education (MEd), Master of Social Work (MSW), Master of Musical Arts (AMusM), Master of Medical Sciences (MMedSci) and Master of Philosophy (MPhil).

Doctoral degrees
Doctoral degrees are postgraduate degrees awarded for an extended essay, known as a thesis. Doctoral theses are normally expected to be around 60,000 to 80,000 words in length, although this depends largely on the kind of information presented. The most important criteria are that a thesis is based on original research and thought, that it is clearly presented and that it adds to mankind's pool of knowledge. Many students study for the degree on a part-time basis. The degree awarded is normally that of Doctor of Philosophy (PhD or, at a few universities, DPhil), regardless of the field of study of the research, except for a few specialised fields as in the case of the degree of Doctor of Musical Arts (AMusD). Students may apply for bursaries to allow them to pursue full-time research for a doctorate for up to three years.
Senior doctorates may also be awarded to established scholars, often in recognition of a substantial body of published work. The titles of these senior doctorates normally reflect the field of the holder's interest more closely than do PhDs; thus titles such as Doctor of Letters (DLitt) and Doctor of Science (DSc) are awarded.

A.6.3 Admission/selection

The United Kingdom is one of the more selective higher education systems in Europe. In 2004, about 22% of the candidates were denied access (source: UCAS) Though there is a central agency co-ordinating the admission procedures for almost all full-time university programs (the Universities and Colleges Admission Services, UCAS). The universities themselves are responsible for the selection of students. They decide on the criteria used, which may differ from department to department.

The traditional qualification for entry to degree study has been two or three General Certificate of Education Advanced Level (GCE A-level) passes as well as a minimum number of General Certificate of Secondary Education (GCSE) passes at grade C or above. These remain the most common form of entry qualification held by full-time undergraduate students. However, a wide range of other qualifications is acceptable for entry. This includes Advanced Vocational Certificate of Education (VCE A level) qualifications, Edexcel BTEC National Qualifications, and the International Baccalaureate. Many courses require some or all of the qualifications for entry to be in specific subjects or in a specific range of subjects. In practice, because entry is competitive, most institutions require levels of qualifications considerably above the minimum. These requirements may be expressed in the number of passes or in the

grades to be obtained. For example, university departments of medicine usually require three A-level passes at grade A or two A-level passes at grade A, plus one pass at grade B, in specific subjects.
A new 'UCAS Tariff' has been developed to, provide a points score system for reporting achievement for entry to higher education. The new system is being introduced from 2002. It takes provision for a wide range of qualifications including Scottish qualifications.
Most institutions also welcome applications from mature candidates who have had appropriate experience but may lack formal qualifications. Increasing numbers of universities offer courses on a modular and part-time basis and many institutions now also give credit for prior study and informal learning acquired through work or other experiences (Accreditation of Prior Learning (APL) or Accreditation of Prior Experiential Learning (APEL).
Access courses can also provide an entry point to higher education. These are courses offered largely by further education institutions and aim to prepare students without academic qualifications for entry to higher education. The courses are aimed mainly at mature students and are designed and taught to meet their needs. Such courses can, in certain circumstances, provide guaranteed entry to specific undergraduate courses. The proportion of students admitted with non-traditional qualifications varies from one percent to over 70 percent, depending on the institution.

Those wishing to enter higher education have to fill out an application form a year before entrance (in October). They can mention eight choices (of institutions and programs) at maximum. No preferences can be given. UCAS collects all application forms and sends them to the institutions mentioned at the form. The institutions assess the applications in relation to their own admission policy. In April the aspirant-students are reported by UCAS on the decisions of the institutions and which of their applications have been approved. In this stage students did not have their final exams yet and therefore the offer of the institutions is conditional, which means that the offer stands under the condition that the examination results of the candidate meet the demands of the institution. When students receive the results of the admission decisions of the institutions, they have to react formally to the offered places by choosing maximum 2 programs. As a habit they choose one program for that they have a strong preference and a second one for the case they do not meet the demands of this program preferred. This implies that the student cannot enrol another institution through the UCAS. The UCAS provides the institutions with the choices of the students. After the examination results are known, UCAS will report them to the universities. If an aspirant-student meets the required demands, the institution is obliged to confirm his study place (Confirmation). If a candidate does not meet the demands, the institution may after all accept him if the institution has places available11. Those who have been rejected for one of both programs of their choice

but meet the minimum criteria to be admitted to higher education can compete for the study places still available through the so-called Clearing Scheme, which starts in September. Candidates who sent in their application form in a later stage, may also be admitted to this clearing process. During this process the places still vacant are published by UCAS after which the students and institutions can contact each other directly. Practically all candidates have to compete for a study place through the UCAS procedure. Since the institutions do not have to explain the reasons for rejection or admission of individual students, it seems useless to appeal against a negative admission decision.

A.6.4 Fees

The tuition fee for full time study in 2004 is set at £1175.
From September 2006 on, universities may determine the level of tuition fees themselves, up to a maximum of £3000.
Part-time undergraduate study has for long had differential fees and the recent fee reform does not affect this level of activity.

A.7 USA53

A.7.1 Types of institutions

Postsecondary education institutions in the United States generally are of three broad types, each of which includes both public and private institutions:

1. two-year colleges, usually called community, junior, or technical colleges;
2. four year colleges, which usually offer either four years of general undergraduate education(liberal arts) or a combination of general and pre professional education; and
3. comprehensive universities, which offer both undergraduate and graduate education as well as professional degrees.

Institutional titles can be confusing, however, because states have different regulations and traditions. For example, many institutions called "universities" do not offer degrees beyond the master's degree; some offer no degrees beyond the bachelor's degree. Some "colleges" offer doctorates.

There are approximately 1,727 community, technical, and junior colleges in the United States, of which 652 are private. Although technical colleges historically focused on subjects related to technology, many now also offer a broad range of courses in the arts and social sciences. For practical purposes, the terms "community," "technical," and "junior" are interchangeable

A.7.2 Types of programs

Community colleges offer four distinct types of programs: transfer programs, development or remediation programs, continuing and adult education programs, and occupational programs. Of these programs only transfer programs have a link to university programs. Students may complete the first two years of a liberal arts or pre-professional program such as medicine, business, law, or engineering and then transfer to a four year college or university to complete a baccalaureate degree.

The four-year undergraduate college is the nucleus from which all institutions of higher learning in the United States have developed. Undergraduates usually are admitted to the institution, not to a department or program, and choose their major academic field after one or two years of general education. These courses are in the

[53] Source: Brief guide to U.S. Higher education (2001), ACE, Washington

fields of the humanities and arts, social sciences, and physical and natural sciences. Students normally must study in all three areas on the assumption that such broad exposure will prepare them for lifelong learning and provide a foundation for specialized study in their "major." The students' last two or three years are devoted to more specialized study in their chosen major field.

A university is made up of a group of schools or faculties, and usually includes several undergraduate colleges (such as arts and sciences, or professional programs such as engineering or business), graduate schools (which sometimes are part of a single school combined with undergraduate programs), and professional (post baccalaureate) schools. The undergraduate curriculum usually includes two years of liberal arts study and two years of intense concentration in a major area. Some technological and professional programs, such as agriculture, business administration, engineering, nursing, and teaching, are offered at both undergraduate and graduate levels. Other professions, such as medicine, dentistry, and law, are studied only at the graduate level (with preparatory programs available at the undergraduate level). In addition to bachelor's degrees, universities also offer master's degrees, and most offer doctorates.
Research universities are those with a major emphasis on research and graduate education at the doctoral level.

A.7.3 Admission/selection

Admission criteria vary widely by type of institution. Higher education institutions establish admissions policies that are consistent with their missions. At some institutions, admission is competitive, based on students' grades, test scores, letters of recommendation, language proficiency (for foreign students), community and leadership activities, and often an application essay. Institutions with selective admissions processes often require applications up to one year in advance of the enrollment period and delay decisions until the entire applicant group can be evaluated. They place varying degrees of importance on grades, examinations, and other factors.
Most community colleges and a few colleges and universities have "open door" or non restricted admissions. These institutions normally admit students soon after their applications are received, keep admissions open until classes begin, and admit all secondary school graduates without regard to previous grades or test results. "Open door" admissions usually do not apply to foreign students.
Admission to a college or university does not necessarily guarantee admission to a specialized program or major within the institution. For example, admission to an accredited nursing program usually is based not only on the admissions criteria of the institution, but also on satisfactory scores in the pre-nursing examination designed by

the National League for Nursing. In the case of the fine arts (art, music, and theatre), applicants typically are asked to demonstrate their talents through presentation of a portfolio of their artistic works (or performance audition in music or theatre). Science and engineering programs often require that the applicant have higher standardized test scores in mathematics than are required for general admission to the institution.

A.7.4 Mode of enrolment

Fewer than 25 percent of today's students are "traditional" students: between 18 and 22 years old, single, financially dependent on parents, resident at the college, and attending school full time. At most institutions (other than highly selective colleges and universities), more than half the students are over the age of 25, working, and attending school part time.

A.7.5 Fees

In 2000–01, the average annual undergraduate tuition rates were as follows:

Table 8: Average annual undergraduate tuition, 2000-01

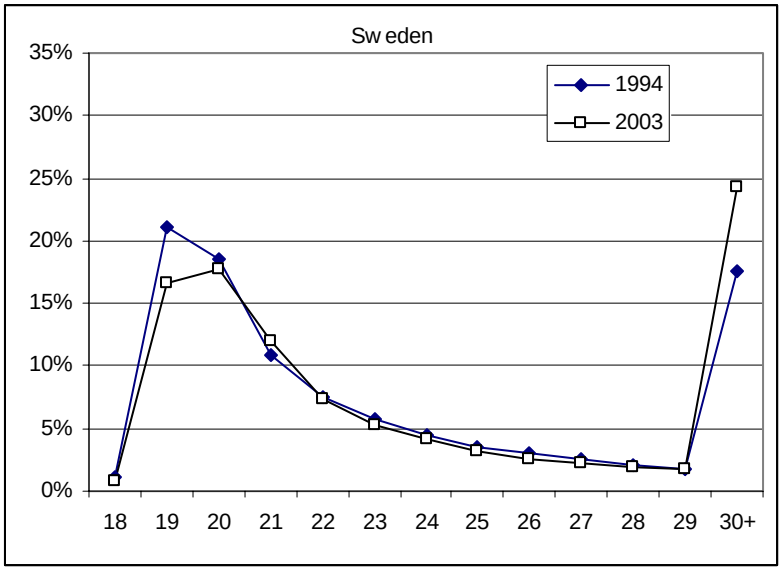
Type of institution	Annual fee
Public Community College (two-year)	$ 1,705
Public University (four-year, B.A. degree-granting)	$ 3,510
Private College or University (four-year, B.A. degree-granting)	$16,332

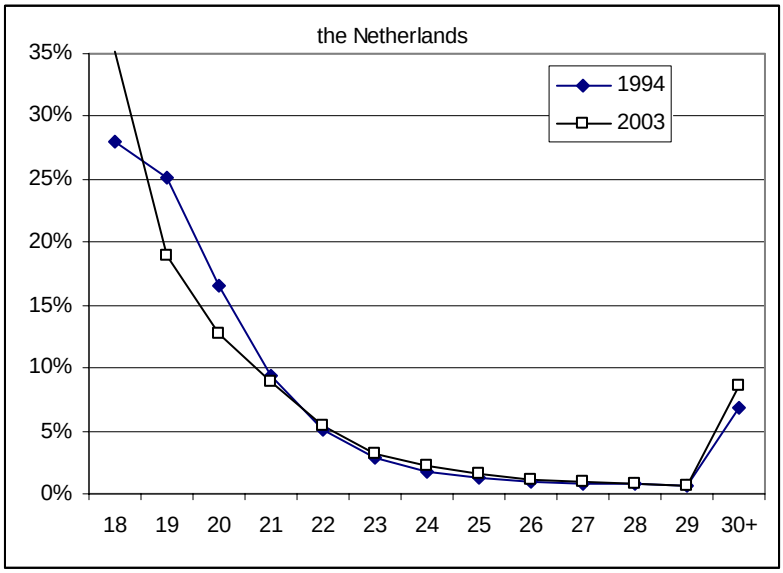
In addition to tuition, students annually pay an average of $675 for books and supplies; those who live on campus pay approximately $6,209 for room and board at private institutions and $4,960 at public institutions. Seven out of 10 full-time undergraduates who attend four-year institutions have annual tuition charges (before student aid) of less than $8,000, and more than half have tuition charges of less than $4,000. Only 6 percent of undergraduates attend institutions charging $20,000 or more for tuition. Qualified students can choose from a wide range of public and private colleges and universities with significantly different costs. The cost of postsecondary education has increased over the past decade, but so, too, have opportunities for financial aid. More than $68 billion in aid is available to students; low-interest loans account for nearly 60 percent of the total, with the remainder being disbursed as grants. Approximately 70 percent of full-time students receive some form of financial aid that covers about 40 percent of the total costs. At private, not-for-profit colleges, the average amount of aid is $9,460 per year. Three out of four full-time

undergraduate students pay less than $10,000 per year for everything—tuition, room, board, books, and living expenses. One-third pay less than $5,000 per year.

B Appendix 2

B.1 Age distribution of new entrants to higher education

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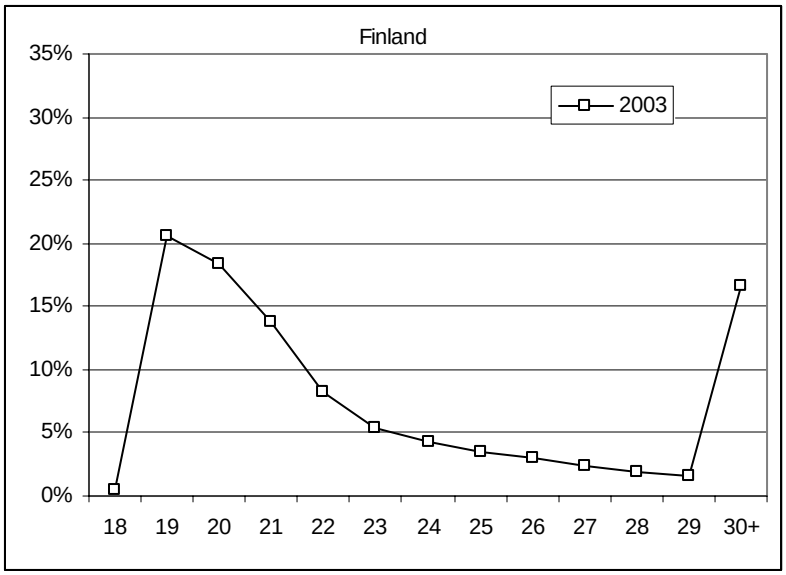
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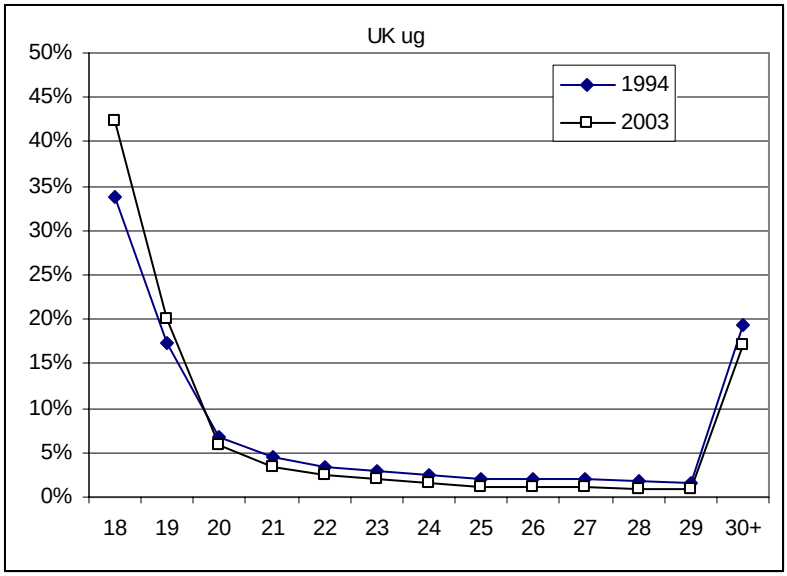
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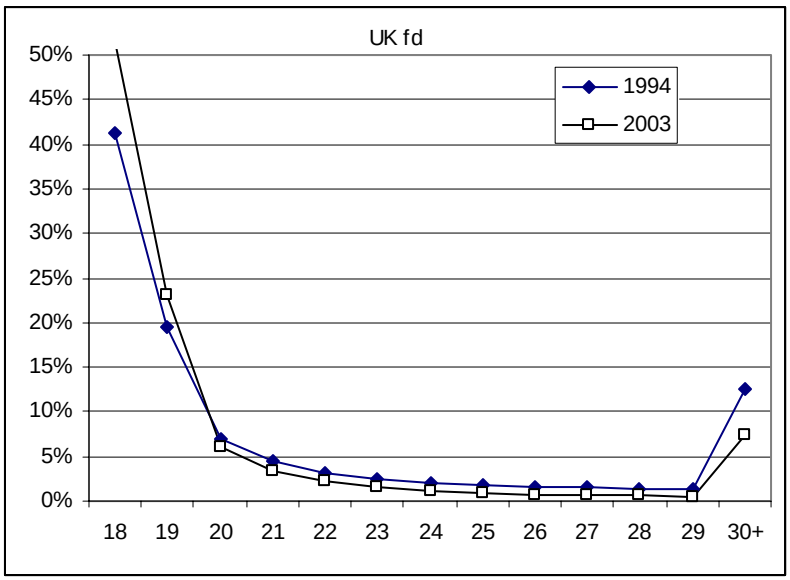
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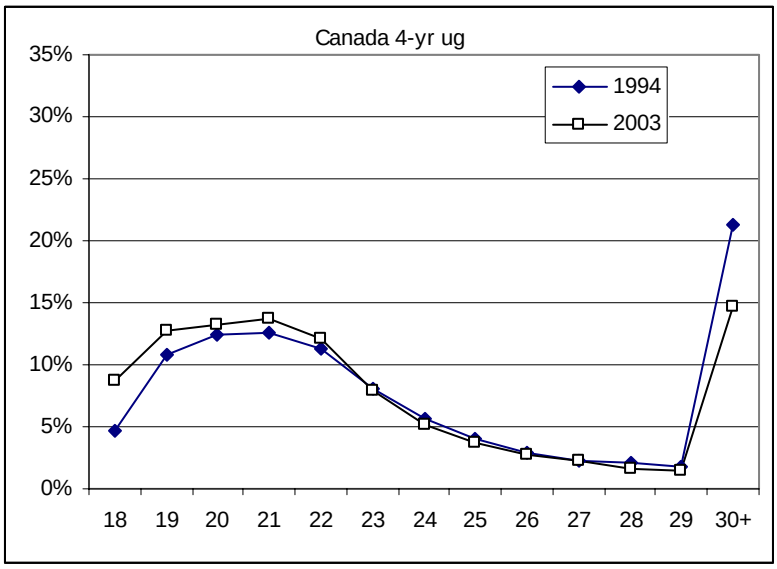
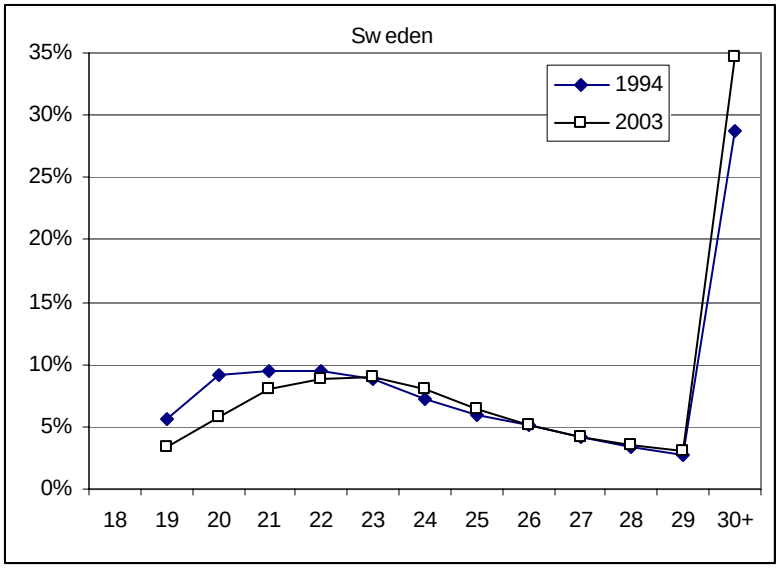
B.2 Age distribution of enrolment in higher education, undergraduate (headcount)

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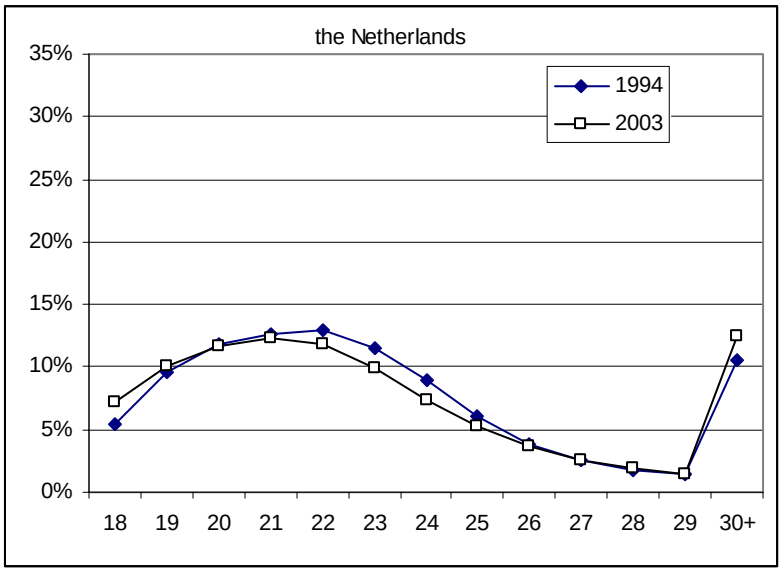
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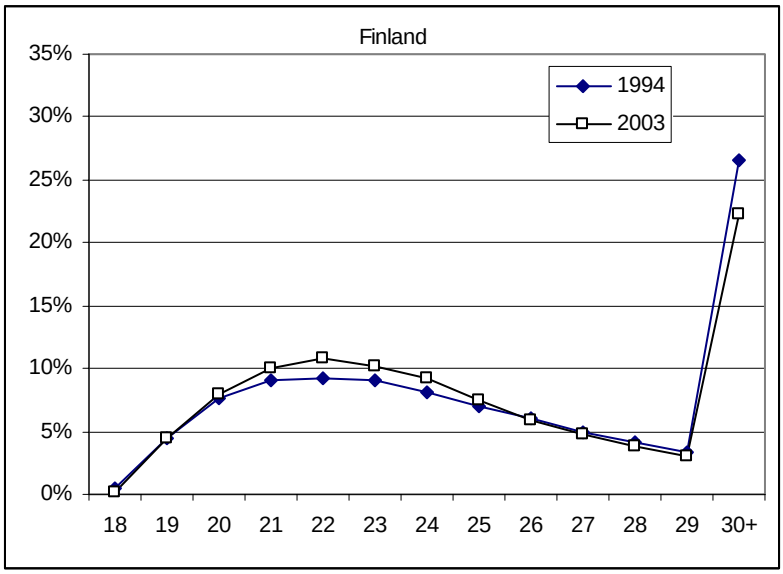
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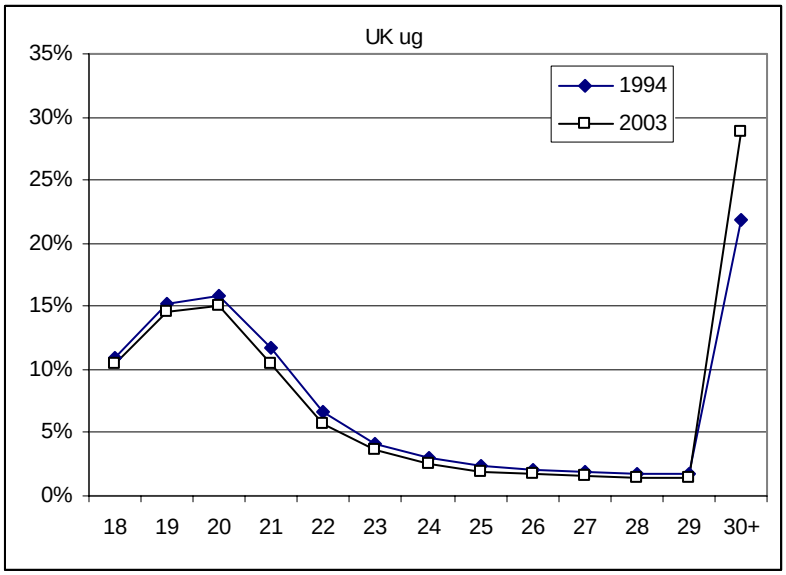
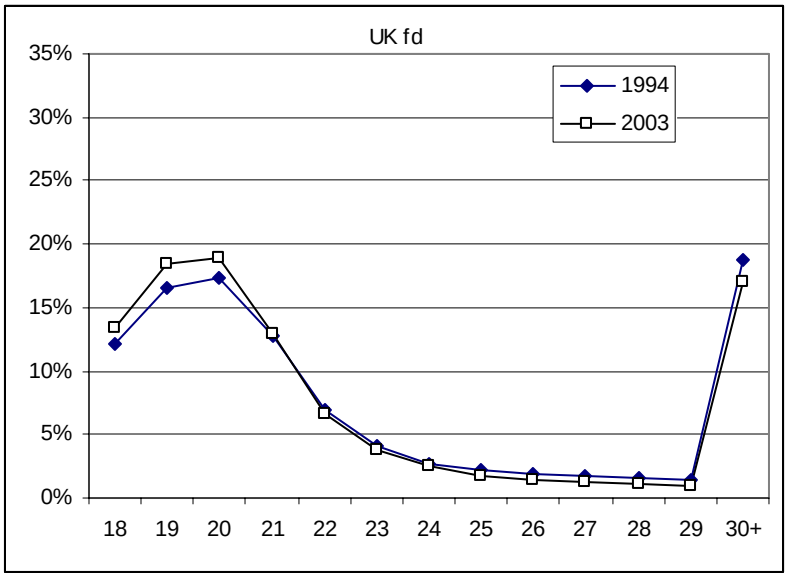

UK ug
1994
2003
35%
30%
25%
20%
15%
10%
5%
0%
18 19 20 21 22 23 24 25 26 27 28 29 30+


UK fd
1994
2003
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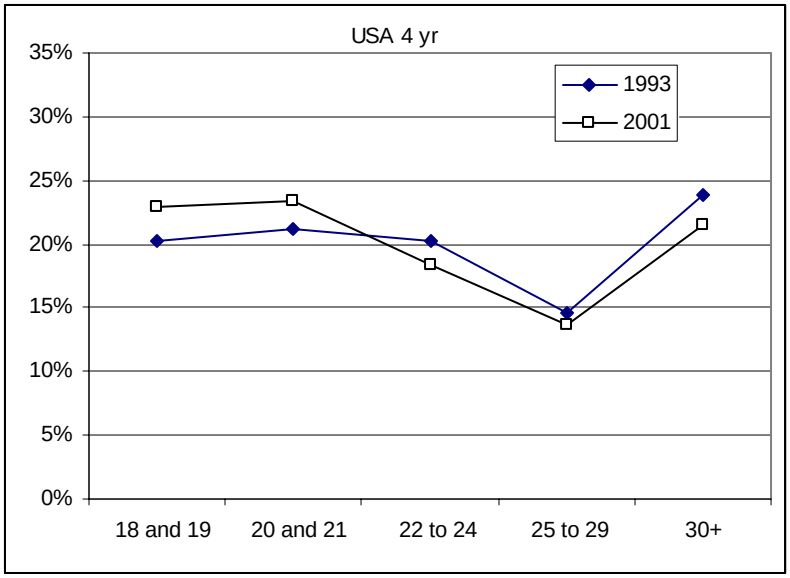
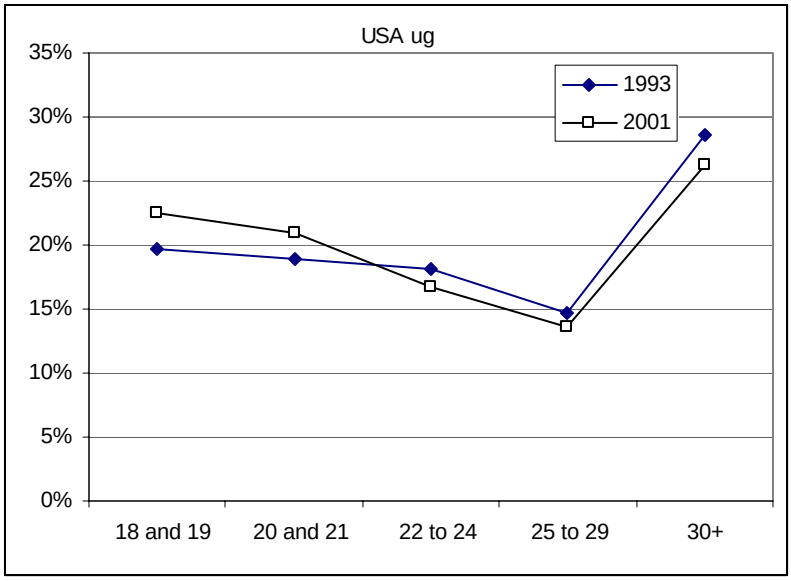
0%
18 19 20 21 22 23 24 25 26 27 28 29 30+


USA 4 yr
35%
30%
25%
20%
15%
10%
5%
0%
1993
2001
18 and 19
20 and 21
22 to 24
25 to 29
30+


USA ug
35%
30%
25%
20%
15%
10%
5%
0%
1993
2001
18 and 19
20 and 21
22 to 24
25 to 29
30+

C Appendix 3: Graduation rates

C.1 Graduation rates using national data

Figure 26: Graduation rates from higher education using three definitions, Sweden

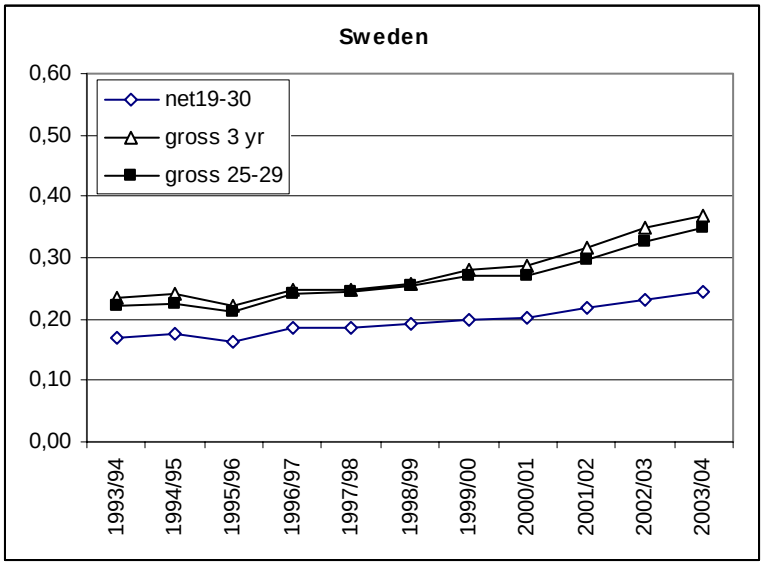


Figure 27: Graduation rates from higher education using three definitions, the Netherlands

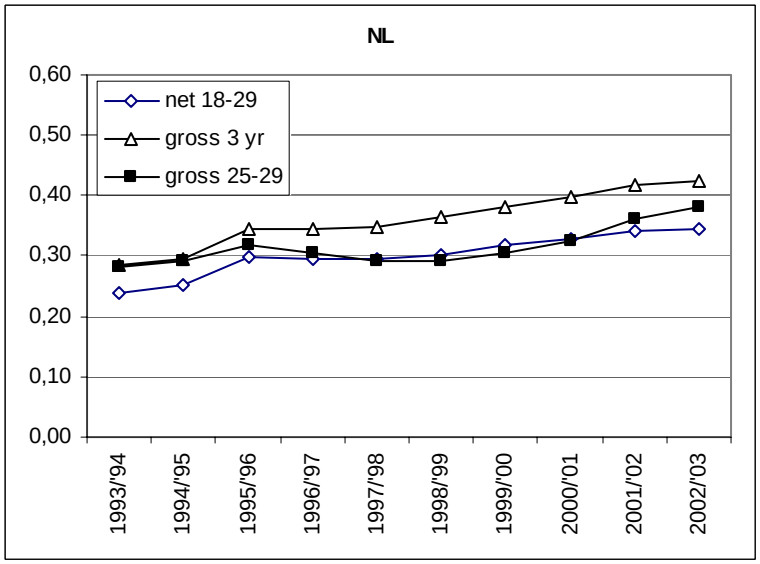
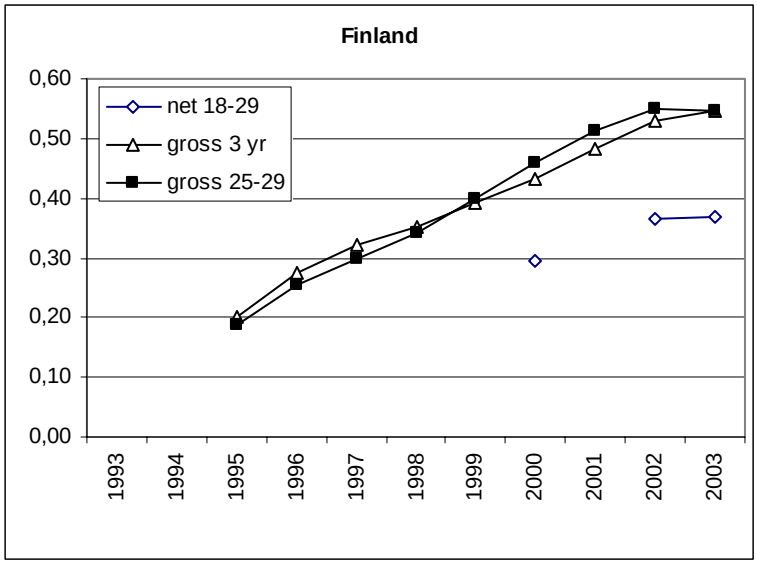


Figure 28: Graduation rates from higher education using three definitions, Finland



D Appendix 4: Contacts

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