CHAPTER 4

TERTIARY EDUCATION:
Extending the benefits of growth to new groups

Summary

Enrolments in tertiary education rose by an average of 40% in the first six years of the 1990s. This growth has been largely driven by rising rates of youth participation; demography has had a mainly neutral effect. The growth represents an achievement in meeting new demand, but also a challenge in providing for still more demand, from students from a range of backgrounds and from adults of all ages.

The expansion has not on the whole reduced disparities in access to tertiary education for people from different backgrounds: the extra places have been taken up at least as much by children from more privileged socio-economic groups as by others. Countries that wish to improve such access are therefore having to make conscious and sustained efforts to help prepare and assist all students rather than assuming that the creation of more places will be sufficient.

Increasing numbers of students are not at the "traditional" age of late teens or early 20s. There has been strong growth in participation of those in their late 20s, partly because studies are taking longer to complete for various reasons. But in addition, a growing number are entering tertiary education in mature adulthood, either having missed out when they were young ("second chancers") or coming back for more ("second biters"). An indication of this phenomenon is the rate at which people over 30 who are eligible for tertiary education (holding upper secondary qualifications) engage in various types of study. These participation rates vary greatly among countries, but up to 8% of qualified adults are enrolled in full or part-time courses for tertiary-level qualifications, and up to 18% take some course with a tertiary institution during a year. These levels show that the assumption that tertiary education is primarily for the young should be seriously questioned.

How well are tertiary institutions catering for more diverse populations? Alternatives to universities have grown steadily over the years, but show no sign of taking over: in many countries university enrolments have expanded faster than non-university ones in the 1990s. Women are gradually becoming more numerous in areas of study where they have been under-represented, and also in post-graduate studies.

But access can also depend on the distribution of financial and educational resources, which remains uneven between social groups. Even where student aid is targeted to poorer families, overall spending on educating better-off students can be greater because they participate disproportionately in higher-status, more expensive courses.

Nevertheless, tertiary education is making efforts to re-orient itself towards greater inclusiveness rather than just picking elites. This ongoing task entails not just raising student numbers, but adopting teaching, financing and student support strategies that cater for a heterogeneous clientele.

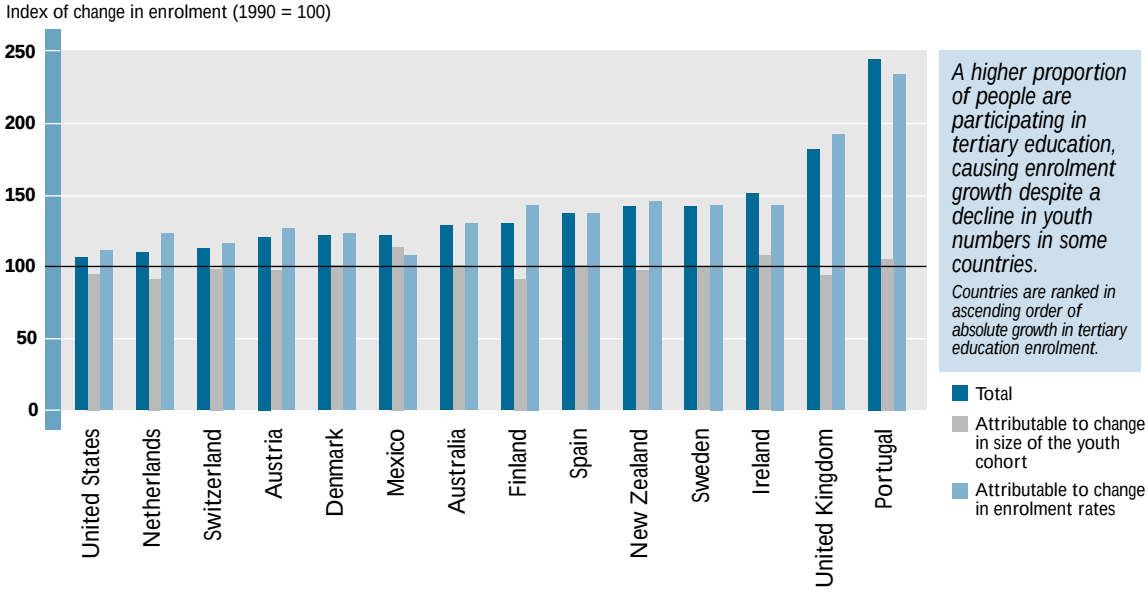
1. INTRODUCTION

A marked feature of development in tertiary education in OECD countries has been expansion to large volume participation. As shown in Figure 4.1, recent rates of increase in headcount enrolment have been substantial: over the six years to 1996, there was a 40% increase in fifteen OECD countries for which comparative trend data are available. Among these countries, growth has been lowest in the United States. Elsewhere, in countries that started from lower rates of participation than the United States, the growth is dramatic: up 22% in Mexico, 29% in Australia, 30% in Finland, 37% in Spain, 41% in Sweden and New Zealand, 51% in Ireland, 81% in the United Kingdom and 144% in Portugal.

Although demographic developments can affect enrolment numbers (through changes in the size of the relevant age group), the more important influences in the 1990s have been educational (increased retention through full secondary education), cultural (increased expectations, as tertiary education becomes "the place to be") and economic (shifts in demands toward a range of skills, knowledge and dispositions at initial and advanced tertiary levels to fill "high skill/high productivity" jobs). These influences have caused enrolments to rise sharply at a time when they would have been expected to change only slightly, up or down according to country, if demographic developments were the only influences. The growth to larger volume participation in tertiary education suggests participation from a more diverse pool of potential students.

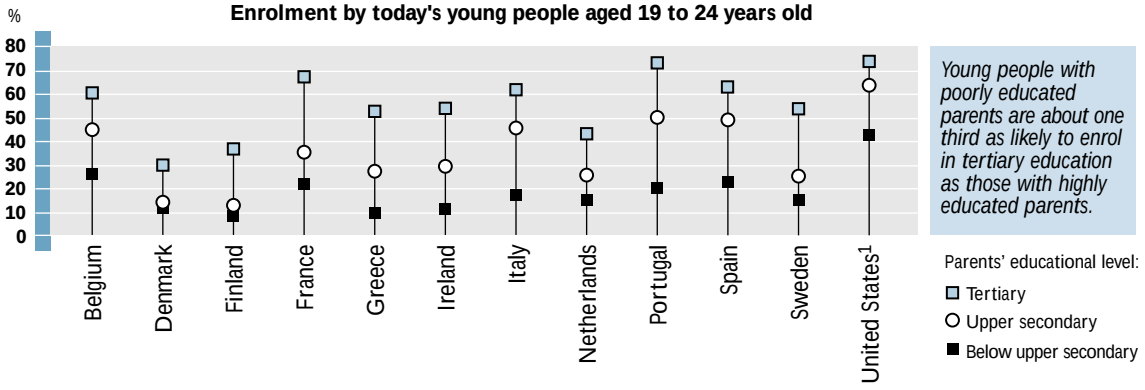
Expansion to large volume participation in tertiary education in all OECD countries stands as an important and impressive achievement, and the factors behind that growth are likely to continue to contribute to a strengthening of public as well as private motivations for even greater levels of participation in the early adult years and throughout life. As participation over a lifetime in some form of tertiary education becomes a common experience, those who do not acquire knowledge and abilities or qualifications at this level will be left further behind. So, a key issue now concerns how best to secure and extend the benefits to ever

Figure 4.1
Growth in tertiary education enrolment, 1990-96



Source: OECD Education Database.
Data for Figure 4.1, page 92.

Figure 4.2a
Participation in and completion of tertiary education by parents' educational level, 1994-95



1. 18 to 24 year-olds.
Sources: EURYDICE (1997); U.S. Bureau of the Census (1995).
Data for Figure 4.2a, page 92.

increasing and widening pools of potential learners. As expressed in the OECD report *Redefining Tertiary Education* " (...) the forces at play suggest a sweeping shift in orientation toward even higher levels of participation at the tertiary level (...) inevitably from previously underserved groups. Changes are occurring, and more are required to meet the educational needs of these new waves of students" (OECD, 1998*c*).

This chapter examines the issue in two parts: first by looking at patterns and trends of access to tertiary education, both at a young age and for participation of older adults in "second chance" or "second bite" tertiary education; secondly by considering differences in groups' access to different study options, learning resources and financial support. While groups identified as underserved will differ among countries, most countries have been concerned with persistent differences in participation by socio-economic status; with different patterns of participation in tertiary education by age; and with the position of women in tertiary education.

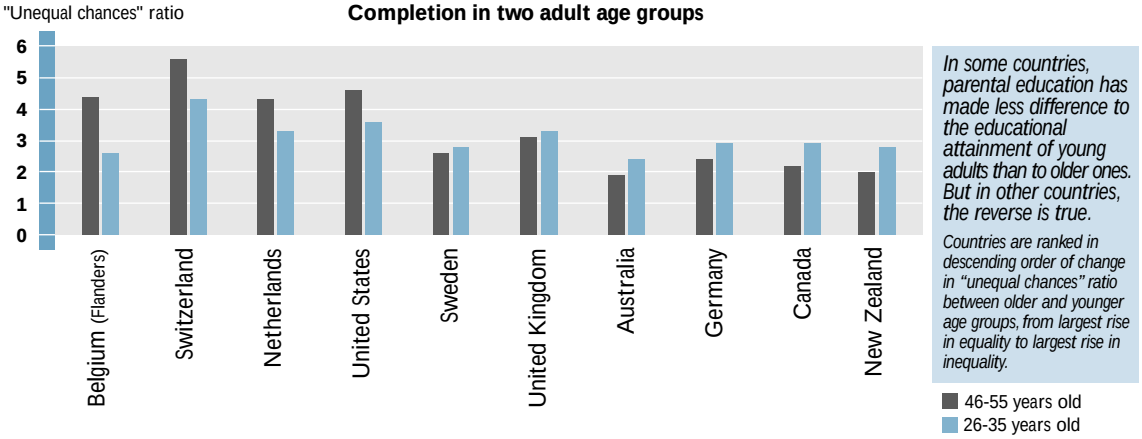
2. EXTENDING ACCESS

Participation from low social and economic groups

Although expansion has been advanced in several countries as a means to bring into tertiary education those who have been under-represented, prior patterns in the social and economic mix of students persist throughout the OECD area. As shown in Figure 4.2a, in a wide range of countries young adults from families with parents who have completed some tertiary education are at least twice as likely to participate in tertiary education as their peers from families with parents who lack secondary education qualifications. Differences among countries in the rates of participation by parent's education are partly due to educational structures (including access to advanced level education and training outside the education system), labour market conditions and arrangements and long-standing customs in the countries concerned. For whatever reason, some countries achieve a narrower gap than others in terms of participation by parental education background. Whereas in most countries for example young people with parents below upper-secondary education have about one-third the chance of participating at tertiary level as those whose parents have completed tertiary education, in Ireland and Greece they have about one-fifth the chance and in the United States and Belgium about one-half.

Are such differences diminishing over time? Figure 4.2b looks at two generations of adults in terms of how much more likely they are to have obtained a tertiary qualification if their parents were well educated, compared to if they were

Figure 4.2b
Participation in and completion of tertiary education by parents' educational level, 1994-95



"Unequal chances" ratio is calculated by dividing the chance of getting a tertiary degree or qualification if at least one parent obtained one by the chance of doing so if neither parent completed secondary education.
Sources: For Germany: Socio-economic panel 1996; for all other countries: OECD and Statistics Canada, International Adult Literacy Survey, 1994-95.
Data for Figure 4.2b, page 92.

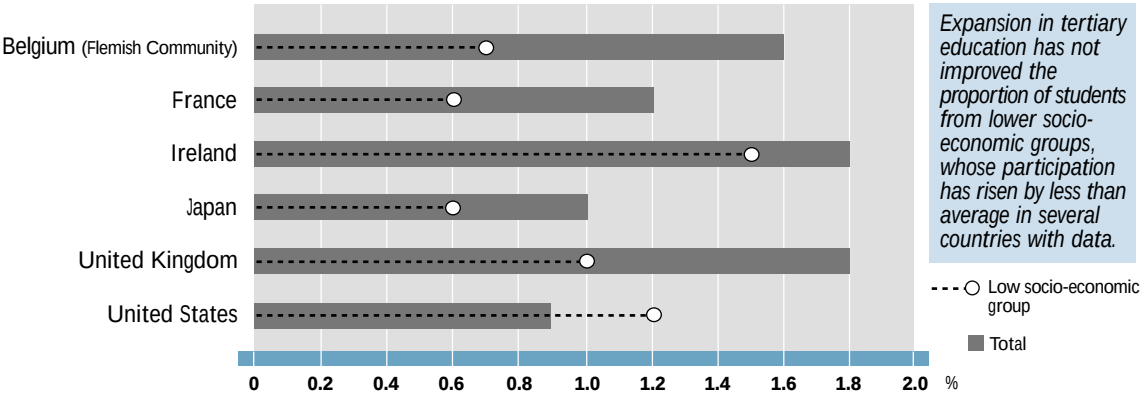
poorly educated. In some countries this measure of inequality is lower in the younger cohort, indicating that differences are indeed diminishing. In others however they have increased – so there does not appear to be a common pattern of general improvement. This general conclusion as well as the patterns for individual countries shown in Figures 4.2a and 4.2b need to be read with caution, owing to difficulties in definition and measurement.[1]

These are long-term trends. But looking more closely at the recent expansion and other changes in tertiary education, are they linked to improvements in the rates of participation of young people from previously under-represented groups? Box 4.1 provides a summary of the main difficulties in data collection and interpretation of trends in access and participation. Figure 4.3 presents an analysis of available country-based data in a few countries. The figures presented are based on different definitions of the groups and cover different time periods, so the magnitudes are not strictly comparable across countries. The trend data are appropriate, however, for within country comparisons and reveal whether social participation is converging or diverging.

The picture presented in Figure 4.3 is mixed. Under various definitions, the gap between the participation rate of young adults from low socio-economic groups and the overall participation rate from this age group has remained the same if not

1. The principal sources of data on the educational attainment of parents of young adult tertiary education students are labour force surveys (LFS) which obtain from respondents information on the age, education or employment status of children up to about age 25. In some countries, the LFS estimates of participation in tertiary education show year-on-year differences which reflect variation in sampling and in response patterns rather than the actual trend. Moreover, participation can be over-estimated, to the extent that some of those identified as "participants" may have been registered but did not actively attend classes, submit required papers or sit exams. Finally, the LFS estimates of educational attainment are known in some countries to underestimate the realised levels of formal educational qualifications. There are two other broad measurement issues raised when interpreting the data presented in Figures 4.2a and 4.2b. First, the increase in the average length of young people's education over the past thirty years means that those lacking secondary education qualifications now comprise a smaller share of the adult population, which make comparisons over time problematic in some countries (e.g. Switzerland, where non-qualified migrants figure in the group with low education qualifications). Second, the younger age group's rates of participation in or completion of tertiary education programmes may understate their eventual levels of educational attainment owing to a growing tendency for participation at later ages. See Box 4.1.

Figure 4.3
Growth in participation rate for young adults in tertiary education by socio-economic group, through the mid-1990s
Average annual percentage point change



Expansion in tertiary education has not improved the proportion of students from lower socio-economic groups, whose participation has risen by less than average in several countries with data.

Sources: OECD Secretariat, based on country provided information for the thematic review of the first years of tertiary education and additional country-based data.
Data for Figure 4.3, page 92.

widened in Ireland, the United Kingdom, Belgium (Flemish Community), France and Japan. The U.S. experience appears to have been more favourable, with the lowest socio-economic group showing a percentage point increase in its rate of participation which is about one-third higher than the increase experienced for all young adults. High year-to-year fluctuations in U.S. participation rates make it difficult to conclude, however, that there has been a change from persistent gaps over several decades in participation rates across socio-economic groups.[2]

So, for most of the countries shown here, while enrolments of students from low social and economic groups have increased, those from groups already well-represented in tertiary education have increased by more. The net result is a distribution of students which looks about the same in terms of social and economic background as before expansion.

A conclusion to be drawn is that expansion alone has not been sufficient to reduce differences in rates of access of learners from different social and economic groups. Further growth may yet draw in larger numbers from under-represented groups, but many countries are taking steps to improve access by improving guidance and counseling and strengthening curricula at the secondary level and by bringing more tertiary education options closer to potential learners. Box 4.2 provides descriptions of specific approaches in several countries. These approaches reflect a mix of policies which apply direct measures to allow or support expansion (the changes in secondary education curricula, extended provision and distance learning at the tertiary level), but also indirect measures (early guidance and counseling, private tertiary education providers, cross-border flows of tertiary-level students) in which students, third parties and partners play a larger role and, therefore, demand itself becomes a more important driving force.

The participation of adults: Second chance or second bite? In what form?

Differences in participation rates by age have become a matter of policy interest, even as participation among older adults has been

2. See, for example, Mortenson Research Seminar (1999) and Kane (1995). Note that, among this group of countries, the United States has the highest overall rate of participation, and the slowest rate of growth over the period examined.

BOX 4.1 **ASSESSING TRENDS IN ACCESS AND PARTICIPATION IN TERTIARY EDUCATION**

Within and among countries, difficult definitional and methodological problems are raised when assessing trends in access and participation.

First, target groups differ according to country circumstances and traditions. In many European countries, under-represented groups are defined in terms of the occupations of the parents . Low rates of participation in tertiary education by young adults whose parents are employed in lower status occupations are commonly viewed as an indication of inequality in the broadest sense, rather than purely as an indicator of economic disadvantage. In Japan and the United States, family income is used as a basis for comparison of students, to help assess differences in the resources available to meet tuition fees and other costs and, in this way, to provide an indication of potential differences in educational opportunity. In Australia, six "equity groups" have been identified for special attention and monitoring ranging from people of Aboriginal and Torres Strait Islander descent to those from socio-economically deprived or rural backgrounds to recent immigrants having an non-English speaking background. However the target groups are defined, countries are concerned about persistent differences: the extent to which participation and choices of people from identified groups remain limited across generations.

Second, volume growth and greater diversity in terms of learners and learning options make comparisons over time problematic. A focus on the conventional young adult age group will overlook development in patterns of tertiary education participation and completion for older adults. In the United Kingdom, commonly cited participation rates of 32 to 35% refer to young adult, full-time students. If account is taken of part-time students and older adults enroled full-time, the "lifelong" participation rate is estimated to be 60 to 70% (Smithers and Robinson, 1995). Equally, participation numbers will be affected, for example, by including (or excluding) those enrolled in strengthened programmes not previously identified as tertiary education (as in Canada or the Czech Republic) or in programmes offered by tertiary-level providers outside of the formal system (as with new forms of technology-based tertiary education in the United States or private training establishments in New Zealand).

Third, it is difficult to provide within a country a common base for comparison of access over time because the composition of the underlying population changes. For example, in Belgium (Flemish Community) the gap in participation rates of young people by socio-economic group (occupation of the head of the family) widened from 12 to 14 percentage points in the seven years to 1992, but over this period the share of young people from families in the lowest socio-economic group (family heads employed as manual workers) declined from 40 to 35% of the relevant population. So, the still relatively low 1992 participation rate for this group refers to a smaller share of the young adult population (Ministry of the Flemish Community, 1998). An alternative, employed in the U.S. and Japanese cases, is to construct a relative measure such as the bottom income quartile or quintile which is adjusted over time corresponding to the income distributions in the years of interest.

Fourth, the social and economic backgrounds of learners are difficult to obtain and also may be defined differently in different years. In some countries, there are legal restrictions on access to or reporting of data according to such characteristics. To respect individual privacy protections, the Australian Bureau of Statistics has developed a method which calculates an average income for all residents within each postal code. In France, changes in the definition of occupations, introduced to better capture the qualitative changes in jobs and work, make comparisons more difficult between years falling before and after the introduction of the new classification.

BOX 4.2 **CURRENT STRATEGIES TO IMPROVE ACCESS**

Extending guidance and orientation into lower secondary education. In France, an intensive information campaign aimed at secondary school students and their parents is intended to encourage early and careful self-evaluation of career options and prospects, the tertiary education programme(s) providing preparation for each career option and the academic background and learning skills needed to succeed in each of the identified study programmes. Similar efforts to provide better and more accessible information on careers and improved assistance in choosing among possible career options and associated study pathways through secondary and tertiary education may be found in Belgium, the United States and Japan.

Strengthening secondary education curricula. Reforms of secondary school curricula and standards in the United Kingdom, the United States, Denmark and the Czech Republic among other countries aim in part to enable young people to acquire essential academic, learning and cross-curricular skills. In the Netherlands, policies which provide for study profiles (*profielen*) help to foster a better connection between secondary and tertiary education, and self-study classes (*studiehuis*) help secondary school students develop new learning skills for use in tertiary-level study programmes.

Bringing tertiary education to the learner. New and long-standing approaches are used to spread the geographic provision of tertiary education:

- In **Sweden** and **Australia**, new institutions have been sited or existing institutions have been upgraded in parts of urban areas where participation rates have been low (Stockholm and Sydney, respectively). Policies in both countries also continue to foster development of institutional sites in rural areas.
- **Norway** has encouraged the development of linkages and networks of institutions to bring a wider range of tertiary education expertise and resources to learners in geographically-remote and poorly-served areas. Institutions are provided extra resources to meet the costs of providing decentralised study programmes.
- **Portugal** opened up tertiary education to private providers. The private sector has, over the past ten years, absorbed somewhat more than a third of the growth and caters particularly to adults in urban centres.

Distance learning options are available in various forms in a number of countries, through external departments or off-campus programmes in conventional tertiary education institutions or free-standing, distance learning institutions or agencies such as Open Learning Australia, Japan's University of the Air, Germany's *Fernuniversität Hagen* and the U.K. Open University. While these options often are aimed at older adults, sizeable numbers of young adult learners follow courses at a distance.

increasing. In those countries where available data permit comparisons over the eleven years to 1996, participation rates for 18 to 24 year-olds increased by about 70%. Over the same period, participation rates for the group of young adults above the traditional university age, aged 25 to 29, increased by almost 50%.[3]

There are several explanations for growth in the participation of those older than the traditional age, some of them relating to continuation of initial studies rather than to students taking a "second

3. The data refer to fifteen OECD countries. Details may be found in OECD (1997*b* and 1998*a*).

chance" (those who did no take up tertiary education at the "normal" time after leaving school) or to those taking a "second bite" (those who have qualified, but return after a period for more tertiary education). In nearly all countries but in different measure and form, there are tendencies for students: (i) to delay entry to build up entry qualifications to selective study programmes, to meet compulsory service requirements or to begin work, as in Norway; (ii) to undertake less than a full-time load or to "stop-out", as in Denmark, the United States and France; (iii) to be required to return to a first-year course sequence when shifting from one programme to another, either by choice or as a result of failure in the initial study option, as has been the case in Belgium (Flemish Community) and Denmark; or (iv) to continue studies beyond a single, first tertiary-level qualification in order to build up the mix of qualifications presented on the labour market, as in Australia, the Netherlands, France, Sweden and the United Kingdom.

These patterns are not in all instances inappropriate, but both system and institutional policies may need to be reviewed to ensure that they encourage and enable students to make progress and better accommodate varied patterns in the pathways and timing of studies leading to recognised learning objectives.

But, the ageing of the student pool also reflects in some countries increased participation by adults who previously would not have commenced studies at this level ("second chance" students). For university-based studies alone, age at first entry varies substantially, with France and Ireland as examples of countries in which most first-time entrants are young, and Canada, New Zealand and the United Kingdom as examples of what already could be termed the basis of a "lifelong learning" model in which significant numbers of both young and older adults enter for the first time: in France, 80% of first time entrants have enrolled by age 20; in Canada, the comparable age is 26 (see OECD, 1997*b* and 1998*a*).

In some countries, substantial numbers of older adults are participating in tertiary education beyond the usual early adult period. Information obtained from participants in the 1994-95 OECD and Statistics Canada International Adult Literacy Survey provide the baseline data.[4] Figure 4.4 presents two kinds of participation rate: the proportion of qualified 30-64 year-olds (i.e. those with at least upper-secondary education) who are enrolled in courses that lead to tertiary-level qualifications, and a broader measure of those enrolling in any course offered by a tertiary education institution during the year. Figure 4.4a gives the overall rates for each category, and Figure 4.4b uses pairs of countries to illustrate how these rates can break down by age, gender, educational attainment and occupation.

Figure 4.4a shows that the proportions seeking to acquire a tertiary-level qualification range from 1% in Belgium (Flemish Community) to 8% in New Zealand and the United Kingdom. But more participate in some form of tertiary level learning option: 3% in Poland, 7% in the Netherlands, 11% in the United States and 18% in New Zealand. In several countries, this represents a much greater number than those enrolled for tertiary education qualifications alone, though in Canada and the United Kingdom the differences are smaller. These participation rates should be seen in relation to levels of participation in any form of education and training[5] by adults who have completed secondary school – the population most likely to be able to benefit from tertiary-level studies. In the countries concerned, some 40 to 60% of these adults participate in some form of adult education and training each year.[6] So, in a few countries, tertiary

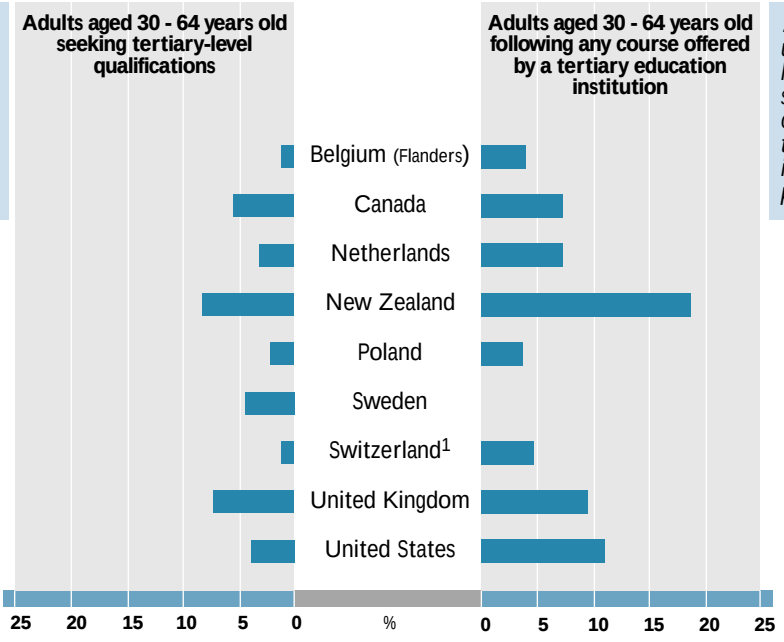
4. The data come from responses to a background questionnaire administered by interviews with each participant in the multi-country IALS effort. In each participating country, samples of 2 500 to 3 000 adults were drawn to be broadly representative of the civilian, non-institutionalised population aged 16 to 64. Realised response rates among countries ranged from 45 to 75%. Details on methodology and results may be found in Murray, Kirsch and Jenkins (1998); OECD and Statistics Canada (1995); OECD and Human Resources Development Canada (1997).

5. That is, basic through tertiary levels, offered by employers, public agencies and private entities as well as educational institutions.

6. These estimates refer to participation in any organised education and training, regardless of the duration of the course (hours engaged). Engagement in informal learning is not covered in the IALS survey, but it is likely to be substantial, see, e.g. Livingstone (1998).

Figure 4.4a
Adult participation in tertiary education, 1994-95
Participants as percentage of population

In some countries one in twelve mature adults who have completed secondary education are studying for a tertiary qualification…



… but many more, up to one in five, have enrolled in some course offered by a tertiary education institution over the past year.

1. German and French combined (95% of population).
Source: OECD and Statistics Canada, International Adult Literacy Survey, 1994-95.
Data for Figure 4.4a, page 93.

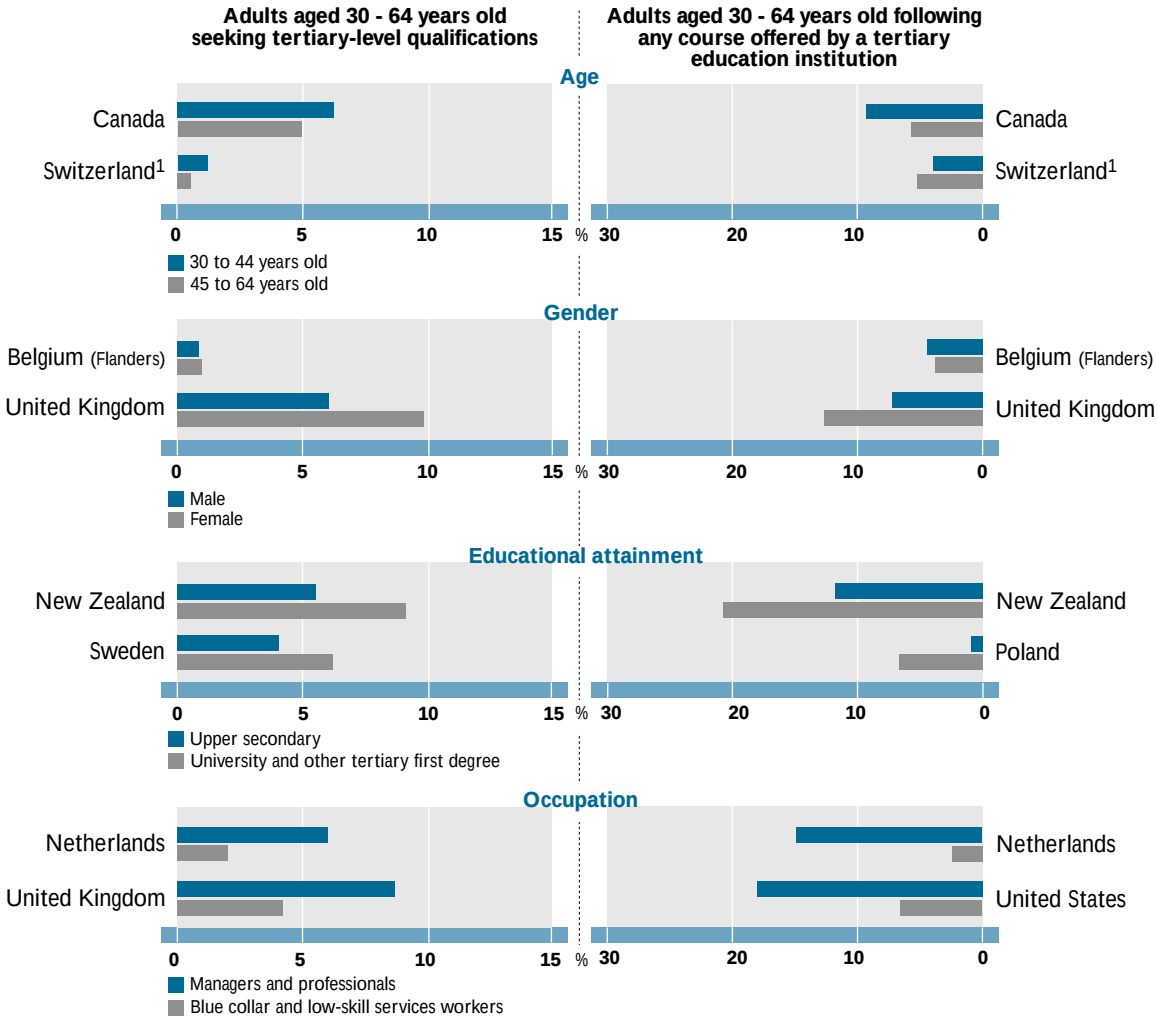
education already accounts for a good share of education and training for qualified adults.

More detailed comparisons by age, gender, prior educational attainment, employment status and occupation are provided in the Statistical Annex. The principal patterns, illustrated with reference to pairs of countries in Figure 4.4b are:

- Generally, those 30 to 44 years of age are more likely to be studying for tertiary-level qualifications than adults 45 to 64 years old; for Canada, the difference in participation rates between the two age groups is, relatively, much less.
- In all but two countries within this group, women 30 to 64 years old are more likely than men in the same age group to participate in studies leading to a degree; the gender difference is relatively small in Belgium (Flanders).
- Adults 30 to 64 years old pursuing tertiary education qualifications are more likely to be "second-bite" learners, and in some countries much more likely as can be seen for New Zealand. Sweden provides a contrasting case: the rate of participation of adults in this age group lacking tertiary education qualifications – "second chance" learners – is relatively closer to that for adults who have completed some tertiary education.
- Those 30 to 64 years of age in managerial and professional occupations are more likely than blue collar or lower-skill services workers in this age group to be following studies toward a degree.

The patterns indicate that gaps in the acquisition of qualifications observed for young people in their early twenties are being partly met through participation in tertiary studies leading to a degree

Figure 4.4b
Adult participation in tertiary education, broken down by age, gender, educational attainment and occupation, 1994-95



1. German and French combined (95% of the population).
Source: OECD and Statistics Canada, International Adult Literacy Survey, 1994-95.
Data for Figure 4.4b, page 93.

or qualification by those lacking such qualifications in their later adult years. But, in addition, in a number of countries there is relatively strong participation in degree-oriented studies by those who may require new qualifications, including people in managerial and professional occupations.

More detailed examination of the data show that:

- In Belgium (Flanders), adult women's participation in all courses – whether directed toward a degree or not – is lower than for men; this reverses the observed pattern when only studies undertaken toward a degree are examined.

- If adult blue collar and lower-skill services workers in the Netherlands are less likely to participate in courses aiming toward a tertiary degree, the gap widens when participation in all tertiary-level courses is examined.

BOX 4.3 **POLICIES AND PROGRAMMES TO OPEN UP NEW PATTERNS OF PARTICIPATION OVER A LIFETIME**

Introducing a lifelong learning perspective in programmes now catering to young adults

Bachelors' degrees. New bachelors'degrees now being more widely advanced in countries having primarily long first degrees, such as Germany, Denmark, Finland, the Netherlands, the Czech Republic and Portugal, are being seen by some as a qualification for initial employment, allowing graduates the possibility to enter the labour market or undertake other activities – ***but*** with the expectation that significant numbers will return to tertiary education after a period of work or other activity for a continuation of studies toward the long first degree. This would give rise to a pattern, incorporated directly into the qualification and programme structures, of several entries into and exits from tertiary education extending well into adult life – i.e. a realised pattern of lifelong learning, developed and supported in tertiary education programmes.

Work experience. Employment, forms of national service (such as Americorps in the United States) or the French initiative emplois-jeunes could be used or organised more strategically as experience which eventually enriches tertiary-level studies and learning. Sweden's 25-and-4 scheme, established in the 1980s, has just such a vision: a special admissions route is available for those who are at least 25 years old and have had four years of work experience.

Addressing older adults' gaps in and demands for learning

Adapting course schedules. In Denmark, tertiary education institutions now offer as Open Education, at night and for a modest fee, study programmes which parallel those offered to regular students during the day.

Private tertiary education providers. In Portugal, private tertiary education institutions cater to the demands of older adults seeking formal qualifications. Students attending these institutions may follow study programmes at night, and they now have greater access to external support to help finance the costs of their studies.

Non-degree programmes. In the United States, a wide variety of tertiary-level learning opportunities are offered – and being pursued – outside of formal degree programmes. These include programmes leading to post-baccalaureate certificates offered by tertiary education institutions, in which participation has doubled since 1990, and "industry"- based programmes offered by such agencies or entities as the National Institutes of Health, the U.S. Department of Agriculture "Graduate School,"and the Tennessee Valley Authority; industry certification schools run by Avid / Henninger Technologies (video/ film/ software/ hardware), Novell, Oracle and Microsoft; corporate schools such as Sun Microsystems University; and virtual coursework provided by the software industry.

Initiatives which widen the range of learning options eligible for public funding

- In **France**, a new lifelong learning initiative aimed at universities provides financing, via competitive funding, to institutions which offer new types of programmes aimed at adults. The programmes are to be more flexible, multidisciplinary and take into account prior learning. Those who complete the courses will receive a certificate of completion which is not directly linked to the national degree (but which could eventually be recognised as partial credit).

- In the **United Kingdom**, Individual Learning Accounts(ILA), opened up in a bank by individual learners, are eligible for partial matching contributions from the government. Learning eligible for ILA support is not defined by institutions or by the higher education quality assurance agency, but rather is broadly recognised by the University for Industry (which is not a university, but rather an open learning, assessment and brokering body). Tertiary education institutions may develop – as other providers – modules eligible for ILA support and UfI recognition.
- In the **United States**, tax payers (or their parents, in the case of dependents) may take a credit for identified tertiary education expenses against taxes owed or deductions to reduce income subject to taxation. New tax provisions for Hope Scholarship Credits, Lifetime Learning Credits, deductions for student loan interest, education and other Individual Retirement Accounts (IRAs), and exclusion from income of employer-provided educational assistance apply to studies undertaken in nearly all accredited public, private and proprietary tertiary education institutions. Unlike student financial aid provisions, some of the new tax benefits may be claimed by learners studying less than half-time (e.g. a single course module) or participating in recognised internship or residency programmes.

The country experiences and data call into question the long-standing focus on immediate rates of entry (e.g. rates of participation of 18 to 21 year-olds). First, a more purposeful lifelong learning approach in tertiary education may be needed to accommodate and foster options for people to enter tertiary education at a later age and to return periodically as needed, even as participation rates for a generation, over the life cycle, increased. Such an approach would need to give attention to widening the learning and work choices of young people on the completion of secondary education and taking the range of those initial experiences into account in the design of programmes, teaching and learning. Second, participation by older adults who have completed at least upper secondary education remains uneven, and policies to address gaps need to be considered. Box 4.3 describes several new and long-standing policies and programmes which are opening up new patterns of participation in tertiary education over the life cycle.

3. EXTENDING PARTICIPATION IN A WIDER RANGE OF TERTIARY-LEVEL LEARNING OPTIONS

Even if tertiary education now accommodates larger numbers from previously under-represented groups, the options open to these learners may be limited in ways that lead to continuing differences in participation or implied differences between groups in access to learning and other resources. Access, as pointed out in *Education and Equity in OECD Countries* (OECD, 1997*a*), is not enough. A range of tertiary education learning options needs to be widely available to all who can potentially benefit from them and measures need to be taken to support the learning of all who undertake studies at this level.

Countries have adopted various means to provide a wide range of tertiary education options, appropriate to the backgrounds and interests of individual learners and to the needs of the economy and society. One approach has been to expand provision in the form of short-cycle programmes more closely linked to employment. The development of such programmes has advanced through the establishment of new institutions, as in Mexico's technological universities, or through an upgrading and extending of existing institutions at the secondary level, part of the strategy in such countries as Canada, the Czech Republic and Finland. As shown in Figure 4.5, the effects of such a strategy can already be seen in Canada. For most other countries, as both universities and other tertiary education institutions expanded in the first half of the 1990s, the division of first-degree enrolments between the two types of institution has remained about the

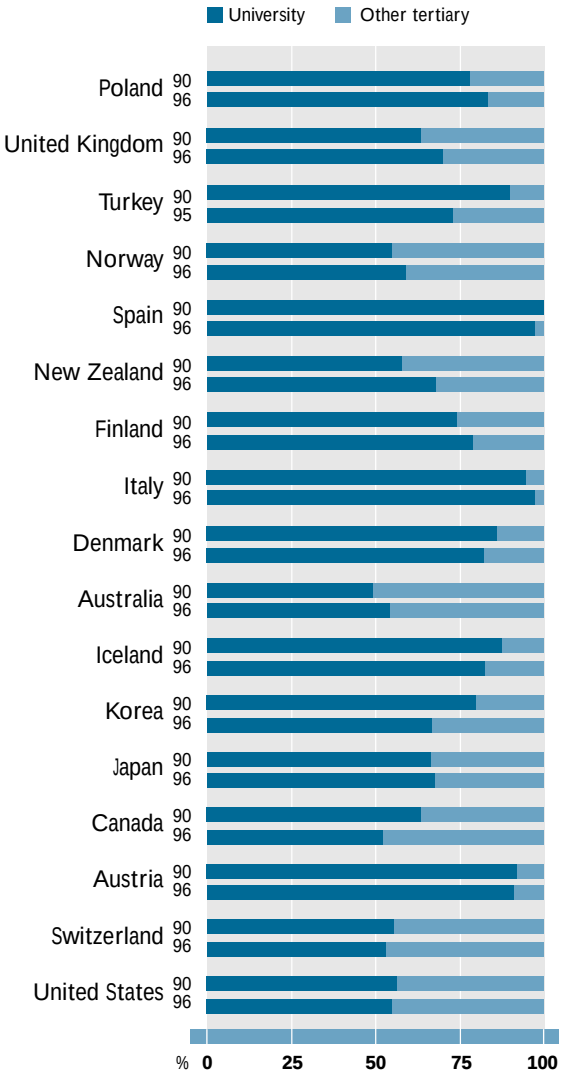
same. There is a slight tendency for countries with relatively stronger overall expansion to have growing share of university enrolments: among the eight countries experiencing the most rapid growth in first degree enrolments (the countries listed first in Figure 4.5), six recorded relative increases in the universities' share. In seven of the nine remaining countries, the relative shares of other tertiary education providers increased.[7] While these differences are modest, more substantial shifts in enrolment shares might in future be observed particularly in countries where new policies have yet to take full effect. In Finland, for example, students in the relatively new vocationally-oriented institutions (AMK) now account for about a quarter of all tertiary-level enrolments; by 2000, the share will be about 40% on the way to an eventual share of two-thirds.

In these and other countries, greater diversity also is being realised within universities and other institutions in a variety of forms:

- development of distinct institutional profiles within a single system, as in Sweden, Australia, the United Kingdom and generally the United States;
- integrating within conventional university study programmes vocationally-oriented work modules, "applied or integrated" studies or work experience, as in the United Kingdom, United States and France;
- expanded professionally-oriented options at the post-graduate level in Australia, the United Kingdom, France and the United States;
- experiencing with greater or lesser oversight the expansion of participation in tertiary-level studies through institutions or means other than formal tertiary education institutions

7. Note that these comparisons refer to total enrolment in these types of institution, and so may not fully capture emerging trends in the choices being made by entering students (for which trend data is not available). Indeed, even if university-based and other tertiary education programmes expanded equally, the university share would tend to increase in most countries because the university-based programmes usually require more years of study.

Figure 4.5
Split between university and other tertiary education, 1990 and 1996
Enrolments for first degrees or diplomas



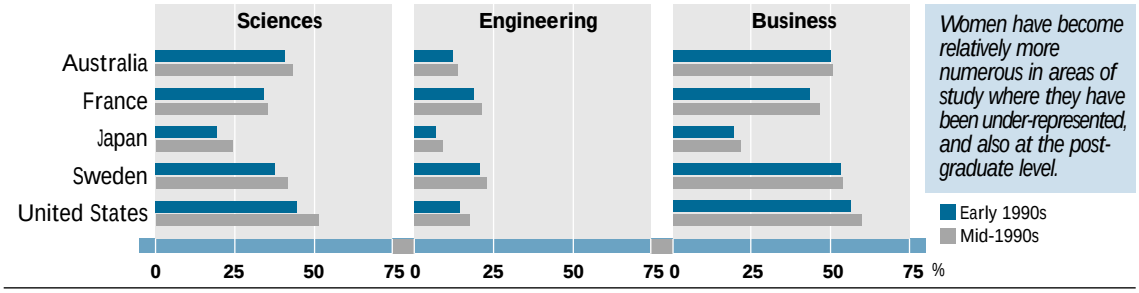
In most countries, the proportion of tertiary education taking place in universities remained about the same. Where overall growth has been strongest, the university share has tended to increase.

Countries are ranked in descending order of growth in enrolment in first-degree or diploma programmes between 1990 and 1996.

Source: OECD Education Database.

Data for Figure 4.5, page 93.

Figure 4.6a
Share of women in first-degree or diploma programmes in tertiary education,[1] early to mid-1990s



1. Owing to differences in the ways fields are classified and in the years covered, the data are not comparable across countries. The patterns of trends can be compared.
Sources: OECD Secretariat, based on country-provided data for thematic review of the first years of tertiary education and additional country-based data.
Data for Figure 4.6a, page 94.

(further education colleges, secondary schools, new providers), in Australia, the United Kingdom, the United States and New Zealand among others;

- encouraging or permitting cross-border co-operation with institutions of different as well as similar profiles, in many countries.[8]

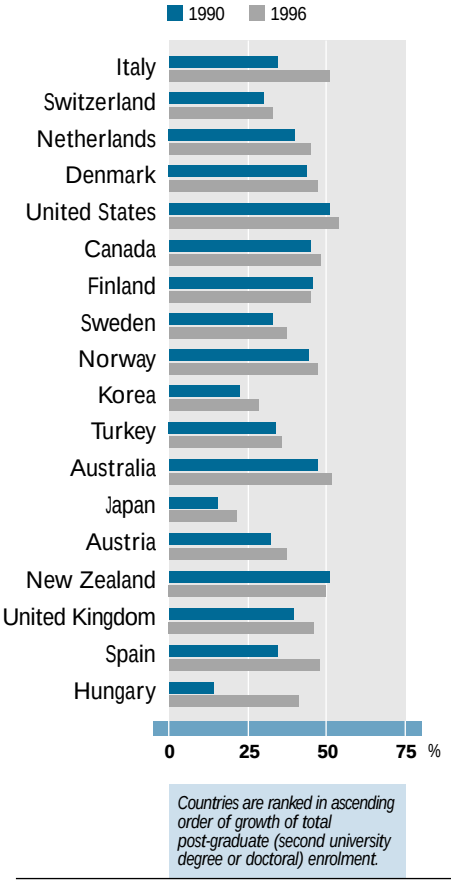
The position of women

Has growth and a widening range of tertiary education learning options been reflected in different groups' patterns of attendance? With regard to the position of women, they now constitute the majority or near-majority of tertiary-level students. In Australia, for example, women's enrolment increased by 30% in the six years to 1996; for men, the increase amounted to 21.9%. On other dimensions of participation, long-standing patterns are generally unchanged – with some exceptions:

- Trends in the shares of women enrolled in university-based as compared with other tertiary education programmes follow mostly the overall trends, shown in Figure 4.5. However, in both Japan and Poland, the shares of women in programmes offered by other tertiary education providers declined between 1990 and 1996. In these countries, women's enrolment in universities increased more rapidly than in other tertiary education institutions.
- In a group of five countries for which country-based trend data of enrolment by field of study are available, there have been increases in the 1990s in the shares of women enrolled in sciences, engineering and business and related study programmes. As shown in Figure 4.6a, the changes over this period in women's shares have been modest but positive in each of these fields.
- In all but two countries shown in Figure 4.6b, there is a significant, sometimes substantial increase in the share of women in post-graduate study programmes.

Enrolments do not provide a picture of eventual qualifications, nor do qualifications reveal the breadth of expertise in the sciences, engineering and business fields. Analyses of college records in the United States. show that about 60% of women who enter an engineering study programme eventually acquire a bachelor's degree in the field; about half of those who switch enter study programmes in the sciences and the remainder have completed a significant proportion of the engineering study programme (Adelman,1998). So, the expertise in engineering acquired by women is larger than indicated by programme enrolments or earned qualifications (similar patterns may be discerned in the sciences and computer science). But, notwithstanding the modest improvements in enrolments, earned

Figure 4.6b
Share of women in all post-graduate enrolment, 1990 and 1996



Source: OECD Education Database.
Data for Figure 4.6b, page 94.

degrees and the "hidden" expertise of those who have switched from these fields, the talent pool remains largely untapped: shares of women in these fields typically lag behind the representation of men in most countries. The reasons why women choose not to enter or to continue in the sciences and engineering are many and varied. Purposeful approaches such as integrated applied science study programmes which are multi-disciplinary in organisation and orientation offer one such strategy which has proven to be successful not only in attracting and retaining women but in preparing them for post-graduate studies in the sciences or for entry into the labour market.

Differences in access to subsidies and learning resources

The patterns and consequences of different pathways for different groups are revealed in data assembled for two countries: France and the United States (see Table 4.1).

In France, the chances for a student from a low socio-economic group to enter a selective and well-resourced preparatory class for the *Grandes Écoles* (CPGE) as compared to a less well-resourced, open access first-cycle programme in the university are one in 16. For students from higher socio-economic groups, the comparable chances are one in seven.[9] The same pattern may be seen in the United States: the chances of a first-year student in the lowest socio-economic group to enrol in a more selective, research university as compared to a public community college is about one in twelve.[10] For a first-year student from the highest income group, the relative chances are better than even. The result of this pattern has been substantial differences in access to resources which directly or indirectly support teaching and learning and the student experience.

Illustrative figures are shown in Table 4.1.[11] The calculations refer to country-specific situations and, while not comparable in detail, may be viewed as suggestive of a shared pattern. As shown there,

8. For an analysis of the ways diversity in provision is taking place within universities as well as across tertiary education as a whole, see OECD (1997*b*).

9. One reason for this pattern is that entry into selective tertiary education options presumes a strong academic preparation, through the general *baccalauréat* streams, but those from lower socio-economic groups are more likely to follow technical or vocational baccalauréat streams. Those failing to gain a place in the selective options pursue the open access route of first cycle university studies.

10. Research universities tend to enroll students with higher academic achievement, as measured by scores on college entrance examinations. These institutions base admissions decisions on a number of criteria, although most admitted students have test scores at the upper end of the distribution.

11. The calculations in Table 4.1 combine and extend prior analyses on patterns of participation and how institution expenditures compare to what students and their families pay. See McPherson and Schapiro (2000) and Winston, Carbone and Lewis (1998).

students from low socio-economic groups receive higher levels of public support than do their peers from high socio-economic groups: in both France and the United States, grants and other forms of student and family support on average favour the low socio-economic groups. The differences are diminished when the chances of attending well-resourced programmes are taken into account. The key points to be drawn from these illustrative calculations may be summarised by reference to the U.S. case:

- The U.S. first-year student from a high socio-economic group who attends a research university (the odds are better than even that he or she will do so, when compared to the chances of enrolling at a public community college) will benefit from higher overall resources than a first-year student from a low socio-economic group enrolling in a public community college, even when financial aid grants are taken into account. The advantaged student "pays" $9 423 for $20 568 in educational resources, while the student from the low socio-economic group attending a public community college "pays" $336 for $8 274 in educational resources.

- Moreover, even looking only at students enrolling in research universities, the pattern of attendance among these institutions leads to a difference in access to learning resources of about $4 000 ($20 568 vs. $16 775) in favour of students from the higher socio-economic group. The net result, after student aid grants are taken into account, is that the student from the low socio-economic group receives an average $3 000 more per year than the student from the high socio-economic group. The former comes from a family with less than $20 000 income; the latter from a family with an income of $100 000 or more.

The analysis thus illustrates another consideration in assessing how access and participation have evolved in the course of expansion, in this case access to learning resources as well as public subsidy support. Owing to patterns of enrolment, low socio-economic students tend to pay less (or receive more public subsidy support) but receive less in terms of learning resources available through the programmes or institutions in which they are more likely to enrol. The concern here is not the measured differences in resources among learning options, which broadly reflect differences in the nature and fields of teaching and learning offered and in cost structures. Moreover, many students who follow less well-resourced programmes may meet their specific learning needs and interests. Rather, the illustrative calculations show another consequence of the choices being made by otherwise qualified young people from low socio-economic backgrounds to pursue a more constrained set of tertiary education options: for them, foregoing learning options which might better develop their abilities and interests and also means foregoing more substantial learning resources.

Differences in access to different learning opportunities and learning resources are, in reality, even more varied and complex. In increasing numbers, students from both high and low socio-economic groups depart from direct pathways toward a qualification (see OECD, 1997*b*). The causes and the consequences of the more varied pathways, however, may differ according to the student's background and circumstances. In some countries where pathways are more rigid and places more limited, students ranking lower in access qualifications or lacking resources needed to pursue alternative options from other providers or in other locations may find themselves in a second, third or lower choice option that does not meet their needs or interests and therefore face a higher risk of dropping out (see OECD, 1997*b* and 1998*b*; Moortgat, 1996). So, these students follow involuntary pathways, sometimes with additional costs imposed by requirements to re-take courses or enter new courses following a switch.

Students from high socio-economic groups are more likely to be able to choose from the full range of tertiary education options. Combining vocational and academic qualifications (as in France), acquiring double degrees (as in Australia) or advanced degrees, or changing the direction

Table 4.1
Access to public subsidies and learning resources for tertiary education students from low and high socio-economic groups by type of institution or programme, France and the United States, mid-1990s

	Selective programme		Open access programme	
	Socio-economic group		Socio-economic group	
	Low	High	Low	High
France, 1994				
	Preparatory classes for the Grandes Ecoles		*University, first-cycle*	
Percentage enrolling	3.4	10.4	64.0	73.6
Net subsidies to students and their families (francs, per year)	9 792	7 504	9 792	7 504
Institutional expenditures per student (francs, per year)	62 000	62 000	32 900	32 900
United States, 1995				
	Research university		*Public two-year college*	
Percentage enrolling	3.7	17.3	47.1	13.7
Net subsidies to students and their families (dollars, per year)[1]	-2 572	-9 423	-336	-724
Institutional expenditures per student (dollars, per year)	16 775	20 568	8 274	8 274

1. As average tuition fees are greater than public subsidies to help families meet the fees, net subsidies are indicated as a negative amount.

Sources: OECD Secretariat, from country-based information.

Notes: **France**: Percentage enrolling is based on the population of students in first-cycle tertiary education. Socio-economic groups are defined as "low", agricultural workers, salaried employees and blue collar workers; "high" as high level managers and those working in the professions. These groups account, respectively, for 30 and 33% of first-cycle, tertiary level enrolment. Public subsidies to students include bourses, indirect public subsides for residence halls and dining facilities, and tax relief for parents. The figures refer to the eight-month academic year (based on estimates of monthly averages), for students under 23 years of age and living with their parents. Institutional expenditures are annual expenditures per student in the identified programme. The data for university programmes refer to all cycles, but exclude IUT and university-based engineering programmes. Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche (1996), *Repères & références statistiques sur les enseignements et la formation*, *Édition* 1996, Paris, Tableau 6.9; J.C. Eicher and L. Gruel (1996), *Le financement de la vie étudiante*, Cahiers de l'OVE, Paris; Ministère de l'Éducation nationale (1994), *Le compte de l'éducation. Années 1989 à 1993*, Les dossiers d'éducation et formations, No. 49, Paris, p. 9.

United States: Estimates refer to first-time, full-time dependent freshmen. Socio-economic groups are defined as "low" with family incomes below $20 000 and "high" with family incomes of $100 000 and over. In 1995, these groups accounted for 17 and 20%, respectively, of all first-time, full-time freshmen. Research universities tend to enrol students with higher levels of academic achievement. Net public subsidies are calculated as tuition fees less grants, and averaged for all undergraduates in each type of programme and student group. Implicit public subsidies in student loans are not taken into account. Institutional expenditures are annual expenditures per student, weighted to reflect the different attendance patterns of students within the identified socio-economic group. Estimates are adjusted for changes in price levels between 1994-95 (base year) and 1995-96 (reference year). U.S. Department of Education (1999), *Student Financing of Undergraduate Education 1995-96*, Washington, D.C.; Gordon C. Winston, Jared C. Carbone and Ethan G. Lewis (1998), *What's Been Happening to Higher Education: Facts, Trends and Data* (1986-87 to 1994-95), Williams Project on the Economics of Higher Education, Discussion Paper No. 47, Williams College, Williamstown, MA; M.S. McPherson and M.O. Schapiro (2000), "Trends and patterns of participation in U.S. higher education: Linking differences in costs and financial aid to differences in access, choice and opportunity", forthcoming, OECD, Paris.

BOX 4.4 CURRENT STRATEGIES TO PROMOTE LEARNING AND PROGRESS FOR ALL STUDENTS

- A 10-point plan in **Belgium** (Flemish Community) calls for improved guidance for first-year students, smoother transition to other courses after (partial) failure and the equivalent of 5% of each university's academic staff assigned to student guidance and support toward the first candidature at the end of the first year.
- The organisation of first cycle study programmes has been changed in **France**. The main features are: a new semester approach in the first year, with separate modules organised to help students develop study skills and to "sample" different subject areas; additional counseling services to help students make informed study choices in the course of their first-cycle studies; wider scope for students to switch among study lines during the first year, with little loss of time; additional academic support through the *tutorat*, in which older students assist new students; improvements in student life through support for various activities.
- Reforms of the "general education" component of the bachelor's degree in the **United States** are leading to greater clarity in learning objectives for the first years of the degree programme and harnessing studies within individual course modules to those objectives. "Remedial" education is provided to entering students who may not have acquired the levels of reading or mathematics skills needed for tertiary-level studies and, while controversial in its current form, appears to have enabled some students – particularly adults – to eventually acquire tertiary qualifications.
- Studies in the **Netherlands** now have to be practicable (*studeerbaarheid*), with the aim of reducing drop-out and the number of years of study and improving the chances of graduation.
- New routes of access are expanding in the **United Kingdom**, via NVQ and GNVQ, and in **Japan** through its National University for Academic Assessment.
- A National Qualification Framework (NQF) was introduced in **New Zealand**, to better integrate qualifications and learning options and to improve student pathways. Responsibility for a broadened NQF will come under a new Quality Assurance Authority (QAA), with the former New Zealand Qualifications Authority focusing on quality assurance of qualifications and education providers. Qualifications frameworks can be found in **Australia** and the **United Kingdom**; a new Qualifications Authority has just been established in **Ireland**.
- The wider diffusion of microcomputers and internet access has fostered new learning options in the **United States**, which extend more widely practices used in free-standing distance education professional programmes.

of studies are seen by these students and their families as ways to improve chances on the labour market and to make adjustments of study choices. The issue for policy and practice is how to ensure that all learners will both have access to a wide range of learning options and be enabled and encouraged to progress and succeed in study programmes, pathways and combinations which best meet their interests and backgrounds as well as wider social and economic needs.[12] Box 4.4 presents examples of recent policy initiatives aimed at supporting learning for all students.

12. For further discussion and analysis of the role of student financial support, see OECD (1998*b* and 1998*c*) and Chapter 1 of this volume.

4. CONCLUSIONS

This chapter has analysed a range of the available evidence on trends in the patterns of participation during the recent expansion of tertiary education. The picture is mixed: while growth has meant increased participation from previously under-represented groups, other groups' participation has increased as well. There are indications that recent growth and ongoing evolution in tertiary education has been accompanied by a widening of learning options, and in some countries a widening of provision beyond degree programmes to meet gaps and new needs for older adults. Yet, women remain in the minority in some subject areas and students from low socio-economic groups are least likely to enter well-resourced programmes and institutions. Current policy initiatives, some with new features reflecting new circumstances, offer the first steps to address remaining gaps and new needs. The effects of these policies are not yet fully known: some have been implemented too recently, others have had limited effects and still others have had unintended consequences. Further adaptations in secondary and tertiary education as well as adult education will be needed if progress is to be realised.

More generally, as overall participation rates continue to increase, a new orientation toward inclusiveness is emerging. The most promising direction now reflected in some countries' policies is one which seeks not only to welcome all students but also to strongly promote and encourage their success. This orientation directly implicates the ways teaching and learning are organised, specifically to respond to the learning backgrounds and interests of every student rather than focusing on results for identified groups. There are implications as well for financing: in the first instance, how to marshall the resources for an ever larger volume (as analysed in Chapter 1); secondly, how to use financing in ways that allow for more varied choices of when, where and how to study. In short, the challenge is how to organise and finance even more participation in learning at this level which is both wide in scope and life long. ■

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