6. Achieving Equity

6.1 Introduction

Equity is increasingly prominent in countries' tertiary education policies. More attention is being focused on learners with more limited opportunities to access and succeed in tertiary education due to circumstances unrelated to their ability to benefit from tertiary education. This Chapter analyses equity in tertiary education. It defines what equity at tertiary education level entails, recognising that it is affected by inequities in previous levels of education. It provides an overview of contextual developments affecting equity in tertiary education and reviews current equity trends. It also offers an overview of the range of factors which affect equity in tertiary education, reviews available empirical evidence, and illustrates policy initiatives in participating countries. The Chapter concludes with a set of policy options for countries to consider. Equity issues related to approaches to funding tertiary education are discussed in Chapter 4 and are only briefly mentioned in this Chapter. In addition, the Chapter focuses on equity *in* tertiary education and only briefly addresses equity *through* tertiary education (or the *social mobility* effects of tertiary education).

6.2 Defining equity in tertiary education

A recent OECD Review of Equity in Education (OECD, 2007a) defines "equity in education" as follows:

> *"Equity in education has two dimensions. The first is fairness, which implies ensuring that personal and social circumstances – for example gender, socio-economic status or ethnic origin – should not be an obstacle to achieving educational potential. The second is inclusion, which implies ensuring a basic minimum standard of education for all – for example that everyone should be able to read, write and do simple arithmetic. The two dimensions are closely intertwined: tackling school failure helps to overcome the effects of social deprivation which often causes school failure."*[1]

It is clear that equity in tertiary education is affected by inequities in preceding levels of education. Individuals are disadvantaged *vis-à-vis* participation in tertiary education if their prior educational opportunities have resulted in their not having the educational pre-requisites to gain admission or not having the belief or knowledge that tertiary education is an option for them, even though they may have the ability to undertake tertiary education. There could be any number of reasons for this, including non-completion of

1. The second dimension of "inclusion", as presented in this definition, appears to have more relevance for educational levels preceding tertiary education.

secondary school, the quality of schooling received, family aspirations, socio-economic status, or health issues.

This Chapter deals with equity in tertiary education, which we associate to the following definition:

> *Equitable tertiary systems are those that ensure that access to, participation in and outcomes of tertiary education are based only on individuals' innate ability and study effort. They ensure that the achievement of educational potential at tertiary level is not the result of personal and social circumstances, including of factors such as socio-economic status, gender, ethnic origin, immigrant status, place of residence, age, or disability.*

This Chapter assumes that *equity in tertiary education* deals not only with equity *within* tertiary systems but also with mechanisms of tertiary education policy to *redress* the effects of past unequal educational opportunities and those which seek to grant *equal opportunities in the labour market* upon completion of tertiary education. A general equity objective in tertiary education is to achieve a student population that closely reflects the composition of society as a whole.

Equity of what?

The Chapter will distinguish between: *(i) equity of access* which relates to equality of opportunities to enter tertiary education and to access programmes at different levels and with distinct qualities; and *(ii) equity of outcomes* which relates to opportunities to progress and complete tertiary studies and also to achieve particular returns to tertiary education.[2] There is also a distinction between the concepts of *equality of opportunities* and *equity*. Whilst *equality of opportunities* refers to the opportunities to access tertiary education and the subsequent treatment the individual receives within tertiary education system, *equity* focuses on the conditions for acquiring operational skills that ensure the individual's employability and the success or failure of tertiary education to provide them.

Equity for whom?

A number of personal and social circumstances can be at the origin of inequalities. The dimensions considered in this Chapter are:

- Family socio-economic background (*e.g.* parental education, income);
- Gender;
- Immigrants;
- Minorities (*e.g.* cultural, ethnical);
- Place of residence (*e.g.* remote locations);
- Age (*e.g.* mature students);
- Disability.

2. The European Commission makes a distinction between equity in *access*, in *treatment* and in *outcomes* and also considers equity of *participation* (Commission of the European Communities, 2006).

6.3 Equity *through* tertiary education

This Chapter is predominantly devoted to equity *in* tertiary education, *i.e.* equity issues which bear a relation to the delivery of tertiary education itself (access to, participation in and outcomes of tertiary education from an individual point of view). The focus is on policies which can make tertiary systems as equitable as possible. This Section, by contrast, looks at the role of tertiary education policy as a potential instrument to improve equity outcomes in society in more general terms: equity *through* tertiary education. This includes the room for tertiary education policy to affect social mobility or, more narrowly, intergenerational income mobility and the extent to which it can reduce income disparities across particular groups.

6.3.1 Role in intergenerational income mobility

Social mobility and intergenerational income mobility are issues of great policy relevance which have received much attention in the literature

In the research literature, the term social mobility is defined in many different ways depending on the research's field of study. Economists mainly consider income or earnings mobility while sociologists analyse mobility across class and occupations (Checchi *et al.*, 1999). D'Addio (2007) defines social mobility as follows:

> *Social mobility refers to the extent to which, in a given society, individuals' social status changes either within the life-course (intra-generational) or across generations (intergenerational).*

D'Addio (2007) also defines intergenerational mobility as "the extent to which key characteristics and life experiences of individuals differ from those of their parents." She provides three main reasons why governments are interested in intergenerational mobility (d'Addio, 2007):

- The ways resources are allocated across generations may influence overall social welfare defined over the entire income distribution of different generations;
- Intergenerational mobility may improve equity by reducing economic inequality, promoting social justice and achieving a more equitable allocation of resources; and
- Intergenerational mobility may be an instrument for achieving greater economic efficiency, in the sense of ensuring that no factors constrain the full utilisation of individuals' talents.

There is an extensive literature on intergenerational mobility. The main findings as summarised by d'Addio (2007) are:

- The extent of intergenerational earnings mobility depends on individuals' and households' characteristics and varies over the income distribution (*i.e.* mobility is lower at both the top and the bottom of the distribution). Various studies also show that countries where both income inequality and rewards to education are higher, display lower intergenerational earnings mobility.
- Evidence of intergenerational immobility extends to other outcomes such as occupational status, wealth, welfare receipt and personality traits.

- Education is a major contributor to intergenerational income mobility and educational differences tend to persist across generations (see below).
- Early and sustained investment in children and families can improve social mobility, with key roles played by early childhood education, care and health (see below).

Education plays a major role on intergenerational income mobility but…

A review of the existing literature on intergenerational mobility in OECD countries by d'Addio (2007) concludes that the effect of education on the intergenerational transmission of income is large and significant. Blanden *et al.* (2007) provide evidence that education has a dominant role in determining the level of intergenerational income mobility. The review by d'Addio (2007) also concludes that educational systems and policies may also affect the extent of intergenerational income mobility. For example, early streaming of students, based on their academic ability, seems to considerably reduce mobility across generations.

… early childhood and compulsory education are likely to be more influential than tertiary education

The literature suggests that policies targeted at levels preceding tertiary education may be more effective in effecting social mobility than policies at the tertiary level (d'Addio, 2007). The author suggests that a strategy based on a greater investment in children holds greater promise of breaking the cycle of intergenerational disadvantages because of its effects in reducing child poverty and contributing to child development. On the basis of the evidence reviewed, she suggests that interventions targeted at improving childhood outcomes are the most desirable: "Most important, getting good quality care in early childhood, pre-school and school is the essential tool for promoting intergenerational mobility". Similarly Machin (2006a) concludes that "over the years, a substantial body of evidence has accumulated that testifies to the importance of programmes targeted to *pre-school* children from disadvantaged background. There is less agreement on the effects of programmes targeting disadvantaged individuals in a later stage of their lifecourse." Using a model of intergenerational human capital transmission applied to the case of the United States, Restuccia and Urrutia (2004) assess the relative roles of early and college education in intergenerational persistence of earnings. Their model indicates that an increase in public resources devoted to early education has a larger impact on earnings mobility than does an increase in college subsidies. They find that approximately one-half of the intergenerational correlation in earnings is accounted for by parental investment in education, in particular early education.

Tertiary education policy needs to ensure that tertiary systems are not inhibiting intergenerational income mobility

The evidence given above suggests that there is a case not to use tertiary education policy to generate intergenerational income mobility. Policy intervention with such goal is likely to be more effective if targeted at lower levels of education. However, as much as education can be an escalator out of social disadvantage, it can also reinforce inequalities. Since participation in tertiary education enhances employment prospects and income as an adult, tertiary systems have the potential to reinforce inequalities

accumulated in prior years of education (Machin, 2006a). Hence, as much as tertiary education policy is likely to have little effect on improving intergenerational income mobility, it needs to ensure equity *in* tertiary education (*e.g.* access policies) so that inequalities from preceding levels of education are not accentuated and intergenerational income mobility is not inhibited. For instance, Blanden *et al.* (2007) provide evidence that the growing imbalance in the access to higher education by family background as higher education expanded in the United Kingdom is partly driving the decline in intergenerational mobility in the United Kingdom for cohorts of individuals born in 1958 and 1970. As Keep and Mayhew (2004) put it "Given the present social-class composition of higher-education entry, there is a danger that further expansion, unless accompanied by a fundamental redistribution of access opportunities, will lead to a decline in social mobility."

6.3.2 Role in reducing earnings disparities across groups

A number of studies suggest that disparities in earnings across groups (*e.g.* by gender, ethnicity) are reduced by the presence of tertiary level qualifications. That is, controlling for all other factors, differences in earnings for instance between males and females tend to be lesser when individuals have tertiary level qualifications than when they hold lower qualifications. In the case of gender differences, part of the reduction in disparities might be explained by the fact that women with higher qualifications have greater engagement with the labour market. Maani and Maloney (2004), examining the returns to post-school qualifications in New Zealand using individual-level income data covering the period 1997-2002, show that access to work for women has a greater effect on the reduction in disparities than the effect of a degree on hourly earnings. Nair (2007) provides further evidence that the disparity in earnings due to gender and ethnic group narrow for those with higher levels of study. For example, the earnings disparities among different ethnic groups (such as Māori and Pasifika) are most noticeable at the lower levels of study and the differences narrow considerably for those who studied at a higher level.

6.4 Contextual developments affecting equity in tertiary education

Inequities in tertiary education are, to a great extent, dictated by inequities in preceding levels of education

Much of the inequities found in tertiary systems are rooted in factors experienced earlier in life, and are usually traced back to preceding levels of education. Much of the unequal access to tertiary education is, in fact, related to the inability to achieve the necessary qualifications as a result of a given disadvantage (Wößmann and Schütz, 2006; Commission of the European Communities, 2006; Marcenaro-Gutierrez *et al.*, 2007). Access to tertiary education is dictated mostly by prior attainment in pre-tertiary education and, as illustrated later in the Chapter, existing education systems have not generally succeeded in breaking the link between performance and children's socio-economic background.

In some countries equity issues related to the inability to acquire the necessary qualifications might be more important than, for instance, affordability at the time of attendance. The inability of systems to grant equal *eligibility opportunities* for tertiary education might actually lead to undesired effects of equity policies designed within the scope of tertiary education. In fact, policies that aim to increase participation in tertiary

education in an effort to enhance equity might end up raising inequity overall because those in a position to benefit (*i.e.* who acquired the necessary qualifications) might come disproportionally from better-off families (Machin, 2006b).

These facts illustrate the need to distinguish between the factors which qualify young people to access tertiary education and those which predispose them to participate.

Expansion of tertiary education has had implications for equity

The expansion of tertiary systems has opened up more places in tertiary education institutions (TEIs), and these should enhance the ability of disadvantaged students to attend, at least in *absolute* terms but not necessarily in *relative* terms. An important empirical question is whether expansion led to the reduction of inequalities in the access to tertiary education.

Up until recently, research studies seemed to indicate that expansion had not significantly reduced social class inequalities in access to tertiary education. Shavit and Blossfeld (1993), analysing the relative chances of different social groups attaining a specific education level in 13 countries, conclude that only two countries – the Netherlands and Sweden – achieved a significant equalisation among socio-economic groups. Other studies which concluded that class inequalities in access to tertiary education have remained relatively stable in recent decades include Halsey (1993) for the British case and Kivinen *et al.* (2001) for the Finnish case. Clancy and Goastellec (2007) argue that it is necessary to take account of changes both in relative and absolute levels of participation of disadvantaged groups (rather than concentrating exclusively on relative changes). They explain that relative changes take account of the extent to which education is a "positional good" while absolute changes point to the significance of improvement in participation of any particular group irrespective of how other groups have fared. This literature has suffered from data limitations, as datasets permitting to look at time trends in access to tertiary education across a number of dimensions of "social disadvantage" are not readily available.

A recent empirical study (Shavit *et al.*, 2007), which analysed student cohorts completing tertiary education in the 1990s (and in some cases in the 1980s) in 15 countries, challenges the established understanding regarding the relationship between expansion and equity. The study concludes that in general expansion has been accompanied with an overall decline in inequality of enrolment. They offer a new interpretation for existing empirical results in this area. They argue that when a given level of education expands, increasing inequality should be expected at the next educational level given the increased heterogeneity of the population eligible to access the next level. They then suggest that when inequality in an expanding system is stable rather than increasing, the system should be considered as increasingly inclusive because it allows larger proportions of all social strata to attend. In only one country, the Russian Federation, in their sample is there evidence of increasing inequality; all of the others either exhibit stable odds, or in the case of four countries (Israel, Italy, Japan and Taiwan) declining odds, and thus increasing inclusiveness (as reported by Clancy and Goastellec, 2007).[3] The authors defend that expansion is itself a form of inclusion, even when odds ratios are stable.

3. The other ten countries in the study are Australia, the Czech Republic, France, Germany, Korea, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States.

Koucký *et al.* (2008) provide similar results looking at the expansion of tertiary education systems in 23 European countries during the 1950-2007 period, using three rounds of the European Social Survey.[4] They find that overall the level of inequity of access to tertiary education in Europe has been declining in the last fifty years but at different speeds both across countries and different periods of time. While the reduction of inequalities was very marked from the 1950s to the 1970s in most European countries and reached its lowest point over the 1980s, inequalities then began to grow in some countries, reaching again the level of the seventies and becoming flat at the turn of the century. This study, however, reveals considerable differences between the countries under review which fall into three more or less distinct groups. The course of inequalities in East European countries (EAST) is markedly different – they were close to average values till the 1970s, in the 1980s grew quite steeply till the turn of the century and became flat afterwards, distinctly higher than average values and those of other groups of countries. The courses of inequalities of other countries more or less follow the course of average values but considerably differ in magnitude, and can be divided again into two groups: inequalities which are distinctly smaller and their course is consistently flatter (NORTH), and those which are moderately greater (SOUTH-WEST).

The diversification of tertiary education systems raises a number of new equity challenges

Expansion is accompanied by differentiation of tertiary systems which, in turn, leads to a change of the nature of inequities. In most countries, the expansion of tertiary education has been accomplished mostly by expanding places in new, lower-status TEIs (leading to a stratification of the tertiary system by quality tiers); the creation of new subsystems, often more vocationally-oriented; the expansion of the private sector; and, sometimes, discriminatory fee policies whereby some students are fully publicly subsidised while others pay the full cost of tuition for the same education programmes. The implication is that disadvantaged students may gain access predominantly to lower-status TEIs or be disproportionally among those required to pay tuition fees (either in the private or public sectors). Inequities in tertiary education become subtler and more difficult to analyse, as a result.

Leathwood (2004) analyses the socio-economic profile of student bodies of six British universities situated at different levels of a spectrum with high status, research-led elite TEIs at the top and newer universities, with far lower levels of funding and prestige at the bottom. The study indicates that the student profiles of these TEIs are very different, with privately educated, white, middle class students particularly over-represented in the elite universities, and working-class, minority ethnic, and to some extent, women students concentrated in those TEIs with far lower levels of funding and prestige.

Shavit *et al.* (2007) note that expansion creates new opportunities, but possibly of diminished value. They argue that the link between expansion and differentiation

4. The European Social Survey was conducted biannually in three rounds up to 2006/2007: ESS-1 (2002/2003), ESS-2 (2004/2005) and ESS-3 (2006/2007). Relative to the course of the Inequality Index, the 23 countries participating fall into three distinct groups: East (the Czech Republic, Estonia, Hungary, Poland, the Slovak Republic, Slovenia and Ukraine); North (Denmark, Finland, Germany, Ireland, the Netherlands, Norway, Sweden and the United Kingdom) and South-West (Austria, Belgium, France, Greece, Luxembourg, Portugal, Spain and Switzerland).

suggests a process of diversion but they note that if lower-tier opportunities bring students into tertiary education who otherwise would not have attended, then it may represent inclusion. They also observe that there are potential mixed effects of the expansion of the private sector. On the one hand, the greater presence of private providers in tertiary systems might increase inequality, presumably due to family differences in the ability to pay. On the other hand, privatisation stimulates growth and expands opportunities, which is associated with lower levels of inequality.

Demographic developments intensify the need to place a focus on equity issues in some countries

Demographic developments in some countries pose new challenges for educational systems, including at tertiary level. For instance, in the Netherlands the main source of demographic growth and the driver of future educational expansion is immigration. The number of inhabitants of "non-Western" origin, principally from Northern Africa and the Middle East, is 10% overall but exceeds 30% in the four largest cities of Amsterdam, Rotterdam, the Hague and Utrecht. In these cities 51% of the population aged 0-14 are "non-Western". Inevitably, this group must figure largely in any policy consideration concerning tertiary education and poses issues in relation to social and cultural integration and the most effective use of human capital. In New Zealand, population is projected to grow by around 12% over the next 20 years, a growth that appears to be particularly concentrated in the Māori and Pasifika populations because of their younger age structure, and in Asian populations because of migration. This will result in a more ethnically diverse population, which in turn poses a challenge for the education system, as up to now educational outcomes for Māori and Pasifika people have been below average. This has been recognised by the New Zealand government and incorporated in the overall development strategy for tertiary education.

Countries tackle equity issues with different cultural traditions

As explained by Clancy and Goastellec (2007), each society has one legitimised category, which is dominant in framing the way in which social diversity is defined and equity is assessed. These categories are idiosyncratic of nations, each one defining those that make sense in the context of national history. In countries such as Australia, Mexico, New Zealand and the United States ethnical diversity is significant among the population and hence the ethno-racial dimension is typically among the main categories used to assess social inequities. In other countries, ethno-racial identities are restricted to the private domain and the reading of social diversity focuses on socioeconomic background (*e.g.* Japan, Czech Republic, Portugal, Spain). Yet in other countries such as Iceland and Norway, egalitarian values are ingrained within society to the extent that the belief that individuals are treated alike makes the collection of data on the basis of the socio-economic background a low priority. Other categories such as gender, disability, or region of residence are more common across countries in accounting for diversity.

As a result, equity policies differ across countries in relation to the historical definition of legitimised identities (Clancy and Goastellec, 2007). For example, reflecting the assumption that differences by socio-economic status are minor, tertiary education policy in countries such as Iceland and Norway stresses universal arrangements and student aid does not build on need-based or targeted approaches. It draws on low entry barriers, low participation costs and good regional distribution of TEIs. By contrast, Australia identifies six equity groups as the target of specific policies: people from socio-

economically disadvantaged backgrounds; Aboriginal and Torres Strait Islander people; women, particularly in non-traditional courses and post-graduate study; people with a disability; people from non-English speaking backgrounds; and people from remote areas.

6.5 Trends in equity in tertiary education

In most countries there is little information to assess the extent of inequities in tertiary education

In most countries, there is a general lack of knowledge about the extent to which equity in tertiary education is a problem as a result of the lack of critical data such as the socio-economic background of students in tertiary education, that of those accessing publicly-funded places or that of those who benefit from student support programmes. In these countries, equity issues in terms of access and completion are largely unidentified because, for instance, data by ethnicity, income, or parental education are not compiled on a systematic basis. An additional complexity is that it is difficult to find good proxies for socio-economic background so its impact on access to and outcomes of tertiary education can be empirically assessed. This hinders analysis of equity issues and makes initiatives to improve equity difficult to evaluate. As Clancy and Goastellec (2007) note "While there is good comparative data available on the elimination of quantitative inequalities in the access for women to higher education and also on the extent of (persisting) generational inequalities, we remain very poorly informed on the changes in social group inequalities and on changing inequalities by ethnic groups and by disability."

Some countries, however, in recognition of the centrality of equity issues within tertiary education policy, compile systematic information on the background of students in tertiary education. For instance, in Australia, definitions, performance indicators and reference values for each identified "equity group" (see Section 6.4) were developed in 1994 and set out in the publication *Equity and General Performance Indicators in Higher Education* (Martin, 1994). The indicators used to monitor performance in this area at the institutional level are:

- access (the proportion of the equity group among commencing domestic students);
- participation (the proportion of the equity group enrolled among domestic students);
- retention (the proportion of equity group students who re-enrol at an institution in a given year); and
- success (the mean student progress rate for the previous year for the equity group).

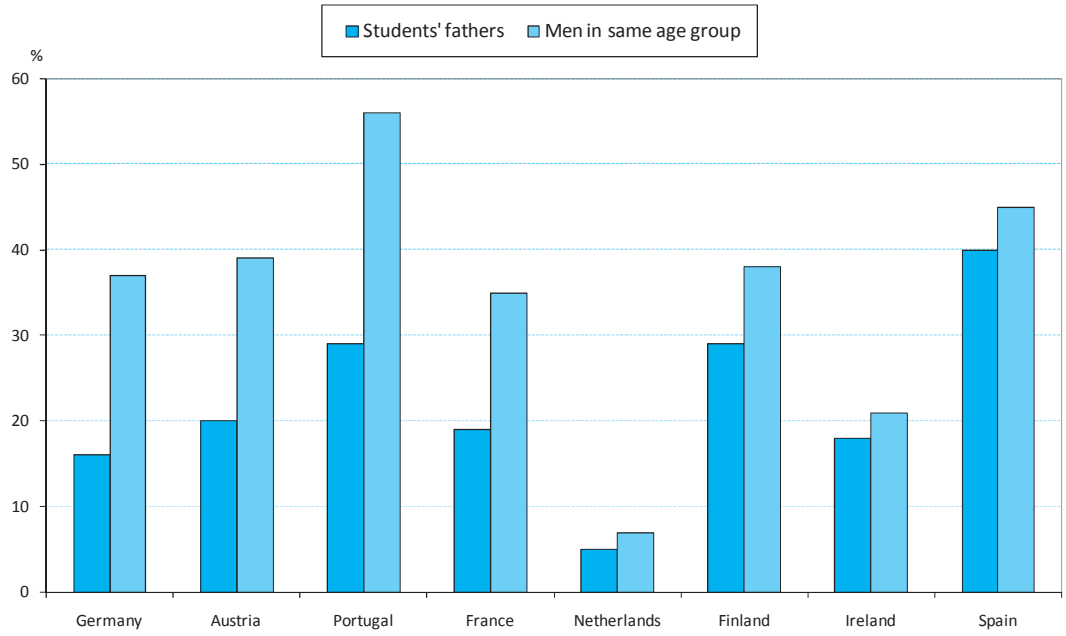
There is strong evidence that access to and participation in tertiary education is associated with the socio-economic background of students

Available data strongly suggest that access to and participation in tertiary education is more restricted for students with a socio-economic disadvantage, measured either by family income level, parental education or parents' occupational status. Figures 6.1 and 6.2 illustrate participation in tertiary education in relation to occupational status of students' fathers and educational status of students' fathers, respectively. Information is

based on a survey of tertiary education students in a limited number of European countries (Eurostudent, 2005). Figure 6.1 contrasts: *(i)* the proportion of higher education students' fathers from a blue-collar background; to the *(ii)* proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population from a blue-collar background. Data suggest that, in all surveyed countries, individuals whose 40-to-60-year-olds fathers have a blue collar background are under-represented in tertiary education. Austria, France, Germany and Portugal exhibit the highest levels of inequality while Finland, Ireland and Spain exhibit the lowest levels of inequality.

Figure 6.1. Occupational status of students' fathers

Proportion of higher education students' fathers from a blue-collar background and proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population from a blue-collar background



Countries are ranked in ascending order of the ratio of the proportion of higher education students' fathers from a blue-collar background to the proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population from a blue-collar background.

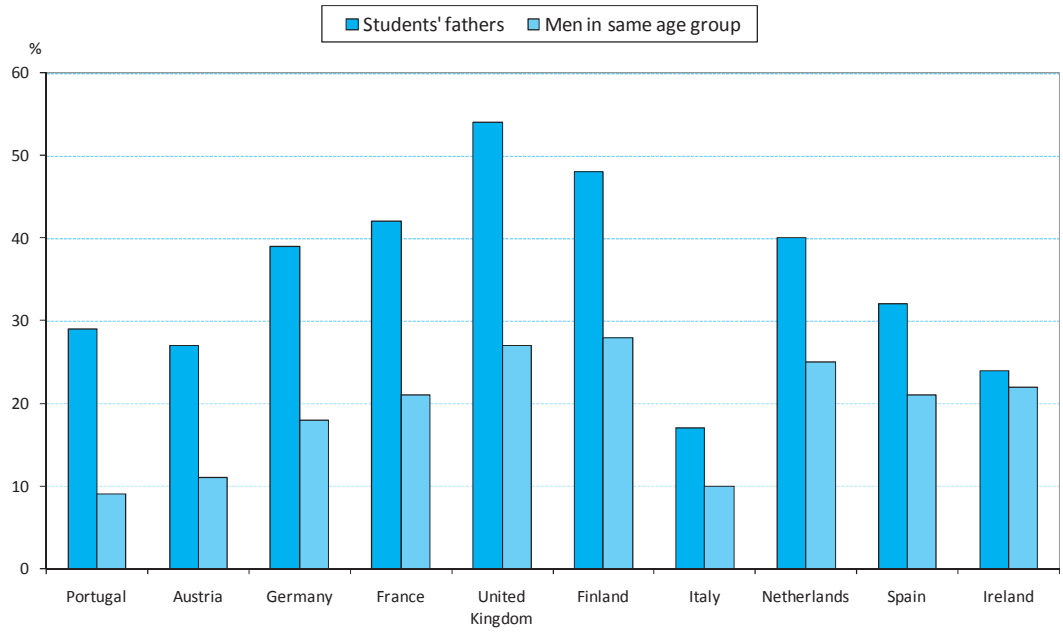
Note: The reference period differs across countries and is comprised between 2002 and 2004. The definition of "blue-collar background" might differ across countries.

Source: Eurostudent 2005, as published in OECD, 2007b.

A similar conclusion emerges from data displayed in Figure 6.2 which contrasts: *(i)* the proportion of higher education students' fathers with higher education; to the *(ii)* proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population with higher education. Data suggest that, in all surveyed countries, individuals whose 40-to-60-year-olds fathers have higher education are over-represented in tertiary education. Austria, France, Germany and Portugal, again, exhibit the highest levels of inequality while Ireland, Italy, the Netherlands and Spain exhibit the lowest levels of inequality.

Figure 6.2. Educational status of students' fathers

Proportion of higher education students' fathers with higher education and proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population with higher education



Countries are ranked in descending order of the ratio of the proportion of higher education students' fathers with higher education to the proportion of men of corresponding age group as students' fathers (40-to-60-year-olds) in the overall population with higher education.

Note: The reference period differs across countries and is comprised between 2002 and 2004. Data for the United Kingdom refer to England and Wales and also refer to the parent (male or female) with the highest income.

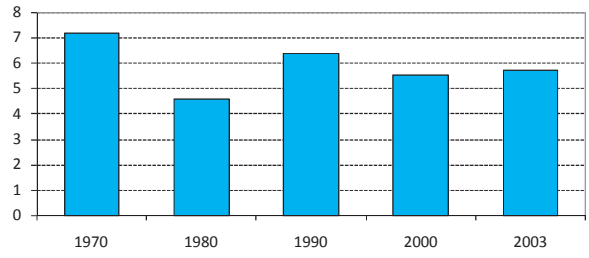
Source: Eurostudent 2005, as published in OECD, 2007b.

Koucký *et al.* (2008), using three rounds of the European Social Survey, assess inequality in the access to tertiary education over the 1950-2005 period for a set of 23 European countries. The measures used to characterise the socio-economic background of students are the father's occupation, the father's education, the mother's occupation and the mother's education. They find compelling evidence of the association between access to tertiary education and socio-economic background. For the period 1990-2005, they find that the odds ratio of attending tertiary education between a student whose father has the highest occupational status (as classified by the International Socio-Economic Index of Occupational Status) and a student whose father has the lowest occupational status is over 2.5 in Austria, Czech Republic, Poland, Portugal, Spain and Switzerland. This odds-ratio is lowest (below 2.0) in Finland, Greece, Netherlands, Norway and Sweden. These results are consistent with an examination of the relationship between father's occupation and tertiary study carried out with data from the 1998 Second International Survey of Adult Literacy (Matějů *et al.*, 2003). The authors found that, for all countries analysed, persons with fathers from a professional background were more likely to have participated in tertiary education by the age of 35 than persons with fathers not from a professional background, with odds ratios of 4.0 in Poland, 3.9 in Hungary and 3.1 in the Czech Republic, substantially higher than those of either the United States (2.0) or Finland (1.4).

Figure 6.3 presents research findings from six countries, as reported in Clancy and Goastellec (2007), two of the examples (Finland and Norway) drawing from countries' Country Background Reports prepared for the Review. Each example displays, for a single country, trends over time of a given admission or participation odds ratio between two socio-economic groups (defined by income level, social class, or parents' education level). Data provide indications that inequalities appear to have been reduced over time in most instances but do persist in quite a visible way in all of the countries displayed.

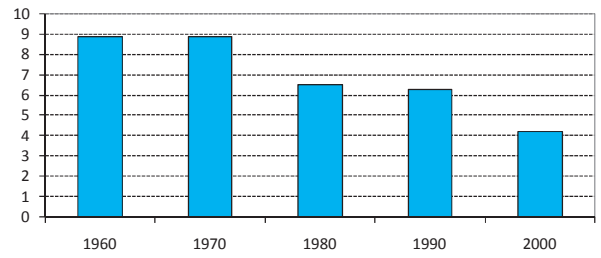
Figure 6.3. Access to and participation in tertiary education by students' socio-economic background in selected countries

College participation by family income: odds ratio top/bottom income quartile, United States, 1970-2003



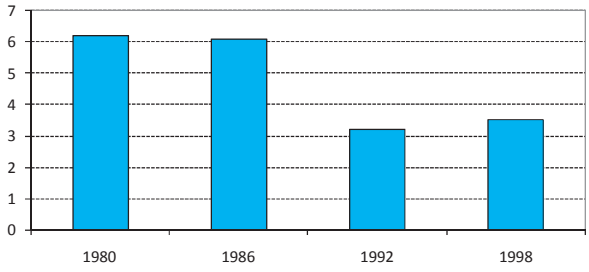
Source: Mortenson, 2005 (as reported in Table 3 of Clancy and Goastellec, 2007).

Higher education by parental social class: odds ratio white collar/blue collar, United Kingdom, 1960-2000



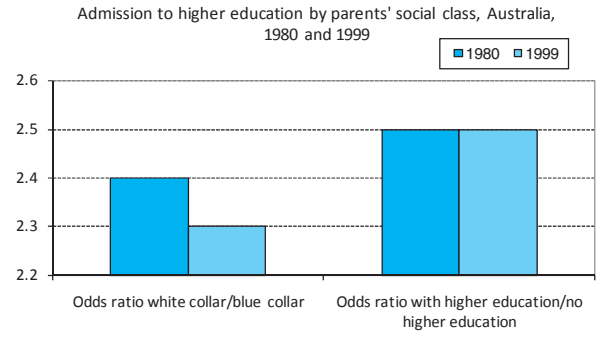
Source: DES, 2003; ONS, 2004 (as reported in Table 3 of Clancy and Goastellec, 2007).

Admission to higher education by socio-economic group: odds ratio 6 highest/5 lowest socio-economic groups, Ireland, 1980-1998



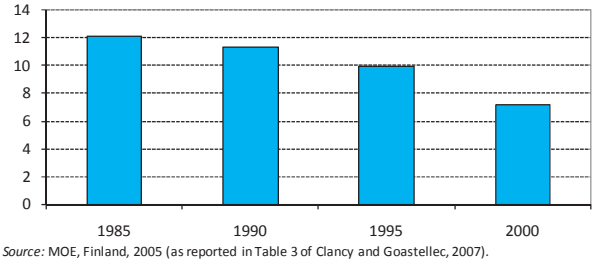
Source: Clancy, 2001 (as reported in Table 3 of Clancy and Goastellec, 2007).

Admission to higher education by parents' social class, Australia, 1980 and 1999



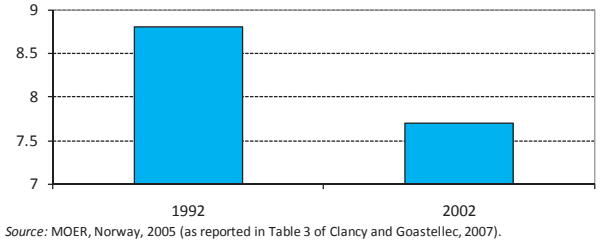
Source: Marks *et al.*, 2000 (as reported in Table 3 of Clancy and Goastellec, 2007).

Participation in higher education by fathers' educational level: odds ratio higher education/primary education only, Finland, 1985-2000



Source: MOE, Finland, 2005 (as reported in Table 3 of Clancy and Goastellec, 2007).

Participation in higher education by parents' education level: odds ratio higher education/compulsory education only, Norway, 1992 and 2002



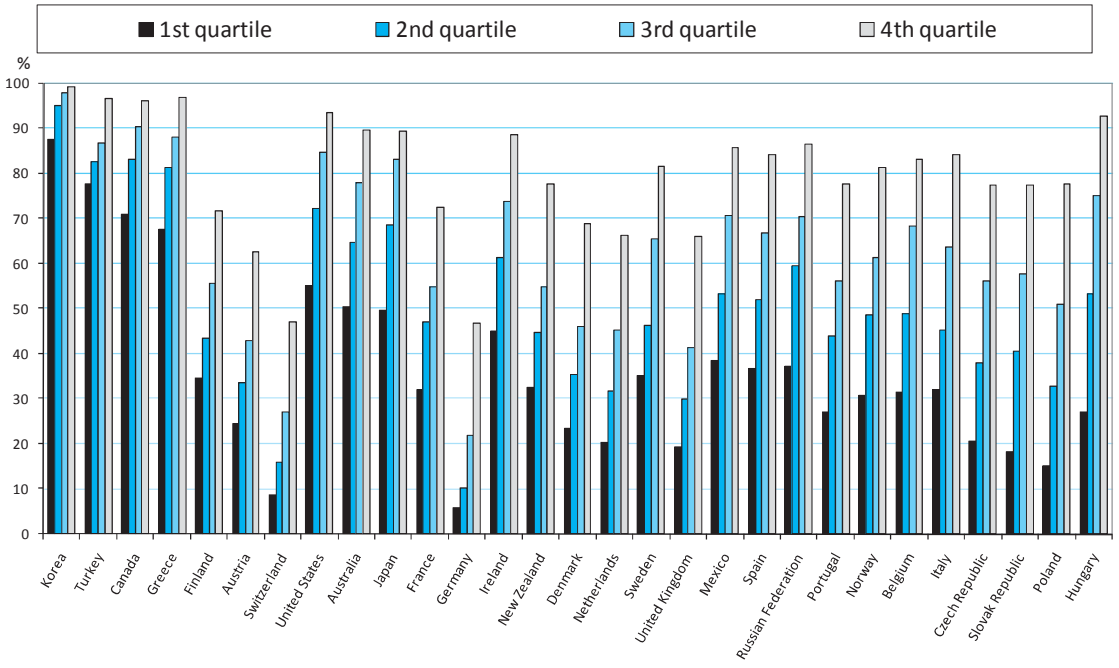
Source: MOER, Norway, 2005 (as reported in Table 3 of Clancy and Goastellec, 2007).

Socio-economic background also impacts on the aspirations for tertiary studies of secondary students

Figure 6.4 displays the aspirations for tertiary studies of 15-year-olds by quartile of the PISA[5] student's economic, social and cultural status index. This index includes the highest International Socio-Economic Index of Occupational Status of the parents or guardians, the highest level of education of the parents converted into years of education, an index of the educational resources in the home, and the number of books at home. The figure shows a clear association between aspirations to tertiary education at the age of 15 and the student's socio-economic background. It is striking that, in all countries, aspirations for tertiary studies are greater for 15-year-olds living in more advantaged families. The variation of aspirations for tertiary studies across socio-economic classes is greater in the Czech Republic, Hungary, Poland, and the Slovak Republic. By contrast, aspirations are less differentiated by socio-economic classes in Canada, Finland, Greece, Korea and Turkey.

Figure 6.4. Aspirations for tertiary studies of 15-year-olds

By quartile of the student's economic, social and cultural status PISA index, 2003



Countries are ranked in ascending order of the difference between aspirations of the 1st and 4th quartiles.

The ***index of economic, social and cultural status*** was derived from the following PISA (Programme for International Student Assessment) variables: *i)* the highest socio-economic index of occupational status of the father or mother; *ii)* the highest level of education of the father or mother converted into years of schooling; and *iii)* the number of books at home as well as access to home educational and cultural resources, obtained by asking students whether they had at their home: a desk to study at, a room of their own, a quiet place to study, a computer they can use for school work, educational software, a link to the Internet, their own calculator, classic literature, books of poetry, works of art (*e.g.,* paintings), books to help with their school work, and a dictionary. For further information see OECD (2004a).

Source: OECD PISA Database, 2003.

5. Programme for International Student Assessment.

More disadvantaged students are over-represented among those students who are not eligible to access tertiary education

A number of young people are excluded from tertiary education because they do not meet the necessary qualifications. These include early school-leavers and students who complete given tracks of secondary education which do not give direct access to tertiary education. According to a study by Groenez *et al.* (2003), in the Flemish Community of Belgium an average of 15.4% of young people aged 18-25 did not complete secondary education in the period 1992-1999. An additional 11.5% do attain a degree of vocational secondary education but without completing the extra third year required to gain access to tertiary education. Overall, an average of 26.9% of young people did not attain the qualifications to become eligible for tertiary education during the period analysed. The study also reveals that young people from socio-economic disadvantaged families are over-represented among the young people not eligible for tertiary education. For example, the proportion of students whose mother's highest educational attainment is primary education or less who did not complete secondary education is 29.2%, and the proportion of students in this category completing vocational education but with no access to tertiary education is 20.7%, both figures well above the corresponding population averages. If we consider students whose father's occupational status is "unskilled manual worker", the equivalent figures are 31.1% and 22.2%, again well above the population averages (Groenez *et al.*, 2003).

When gaining access to tertiary education, more disadvantaged students enrol in greater proportions in lower-status TEIs and more vocationally-oriented TEIs

There is evidence that when more disadvantaged students gain access to tertiary education, they enrol in greater proportions in lower-status TEIs and more vocationally-oriented TEIs. For example, Groenez *et al.* (2003) provide evidence that, in the 1990s in the Flemish Community of Belgium, students from disadvantaged families were over-represented in the non university sector (university colleges, *hogescholen*). While the average proportion of graduates from the university colleges over the period 1992-1999 was 72.3%, it stood at 84.5% for graduates whose mothers' highest educational attainment was primary education and 96.0% for graduates whose fathers' occupational status was "unskilled manual worker". Analysing the case of Portuguese tertiary education, Martins *et al.* (2005) found that, in 2004, while the proportion of students from a family in the two lower income brackets was 58.9% in the polytechnic sector, it stood at 42.1% and 37.2% in public universities and private universities, respectively. Similarly, 2003 survey data from Chile reveal that while 42.3% of students attending tertiary Technical Training Centres were from families in the two lowest income quintiles, they made up only 23.3% of the student population attending universities which are part of the Council of Rectors.

For the case of the United Kingdom, Chevalier and Conlon (2003), using cohorts of graduates in 1985, 1990 and 1995, provide evidence that students from a disadvantaged background were less likely to study at "elite" universities and Conlon (2002) gives evidence that, for a cohort of individuals born in 1958 (followed in the National Child Development Study), students whose fathers belonged to a lower social class were more likely to study for a vocational qualification rather than an academic qualification. In Sweden, data show that the proportion of students with a working class background is greater in shorter programmes leading to vocational degrees such as social care, vocational therapy, nursing or teaching (with over 25% of total enrolments) than in longer

more "prestigious" programmes such as architecture or medicine (with less than 10% of total enrolments). This socioeconomic bias is also visible in doctoral studies. In 2002-03, among students starting doctoral studies, 12% were from a working class background while 74% had a white-collar background (Högskoleverket, 2005).

Female participation in tertiary education has improved significantly in recent decades but the gender gap persists in post-graduate programmes

Female participation in tertiary education has steadily increased in recent decades, a trend reflected in 2005 tertiary attainment rates greater for females in the 25-34 age group in most countries (see Figure 2.6 in Chapter 2). Figures 6.5a to 6.5c show net entry rates by gender in 2005 for tertiary-type A programmes, tertiary-type B programmes and advanced research programmes, respectively. It is striking that net entry rates in tertiary-type A programmes are greater for females in all countries except Germany, Japan, Korea, Mexico (where parity exists) and Turkey (see Figure 6.5a). In some countries such as Estonia, Iceland, New Zealand, Norway, and Sweden the gender gap in participation is favourable to females by at least 25 percentage points. In tertiary-type B programmes, women remain dominant in most countries. Only in Chile, Denmark, Ireland, Mexico, Switzerland and Turkey are net entry rates greater for males (see Figure 6.5b).

In some countries, such as Korea, the causes of relatively low female participation appear rooted in traditional views of women. In general, participation of Korean women outside the home has been lower than in other OECD countries: the labour force participation rate of women is about 49%, much lower than the OECD average of 65%, and the employment rate of women with tertiary education is 57%, among the lowest levels in OECD countries. Women constitute only 34% of individuals in highly skilled positions compared to about 50% in Australia, Germany and Sweden, and 54% in the United States; men are dominant in senior corporate positions (94% of all individuals), senior civil service positions (90%), and in university faculty positions (86%) (OECD, 2005a).

Expansion of female participation in post-graduate programmes has been less impressive. In most countries for which data are available, net entry rates in advanced research programmes are higher for males (see Figure 6.5c). The exceptions are Australia, Estonia, Iceland, Italy, New Zealand, Spain and Sweden. Nonetheless female participation in doctoral programmes has been increasing in most countries. For instance, in the Netherlands, the percentage of women in doctoral programmes has increased from 18% in 1990 to 41% in 2005. Given the favourable trend in women's participation in under-graduate tertiary education, it can be hoped that female representation, both in post-graduate programmes and in due course in leadership positions in academia and in society at large will also improve satisfactorily over time.

Figure 6.5. Net entry rates in tertiary programmes by gender, 2005

Figure 6.5a. Net entry rates in tertiary-type A programmes by gender, 2005

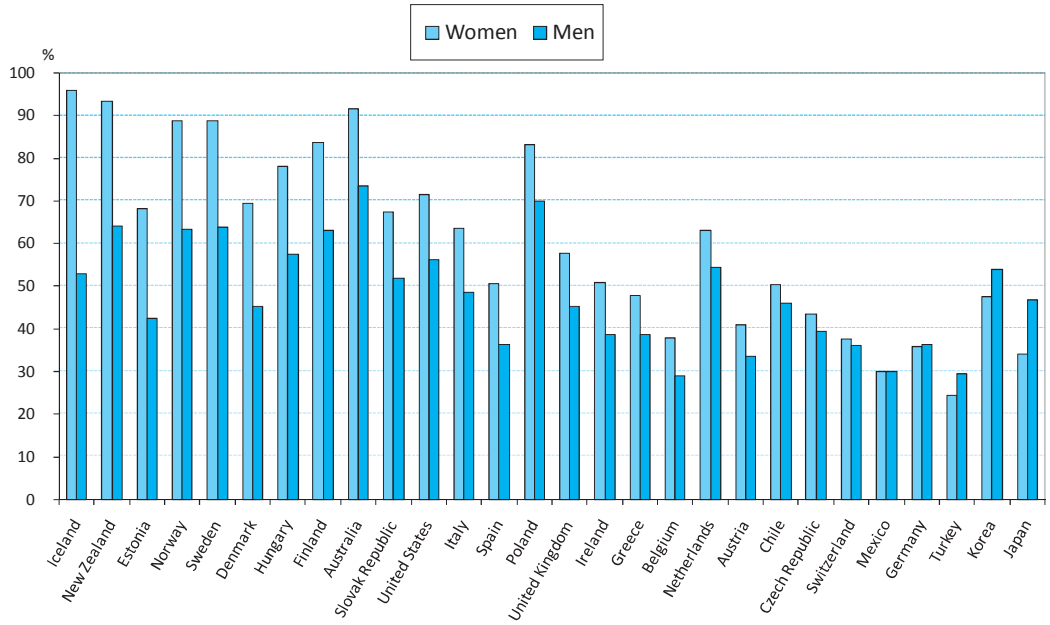


Figure 6.5b. Net entry rates in tertiary-type B programmes by gender, 2005

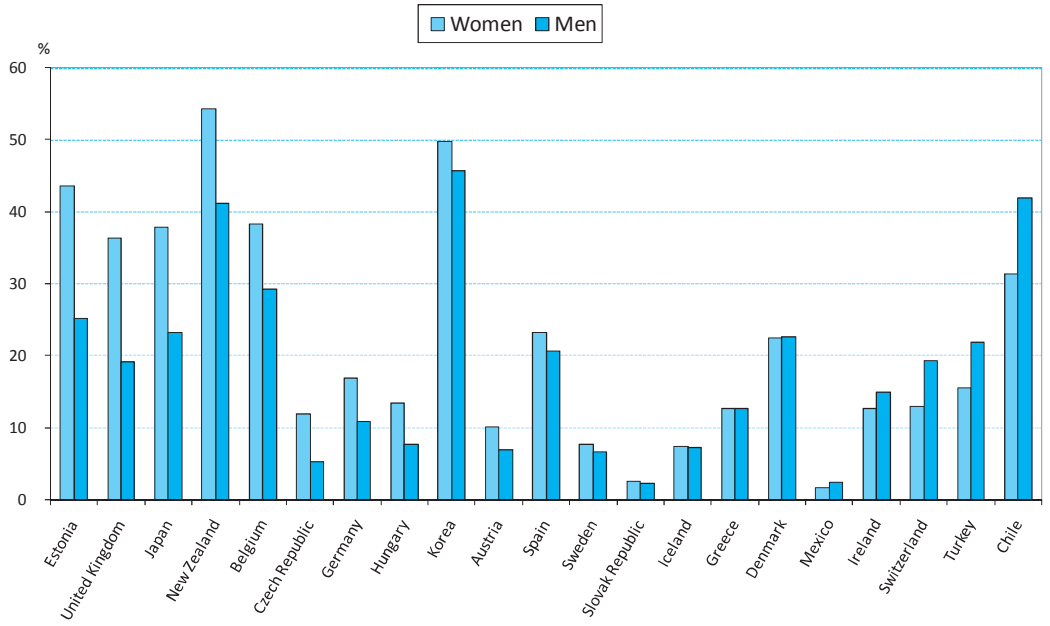
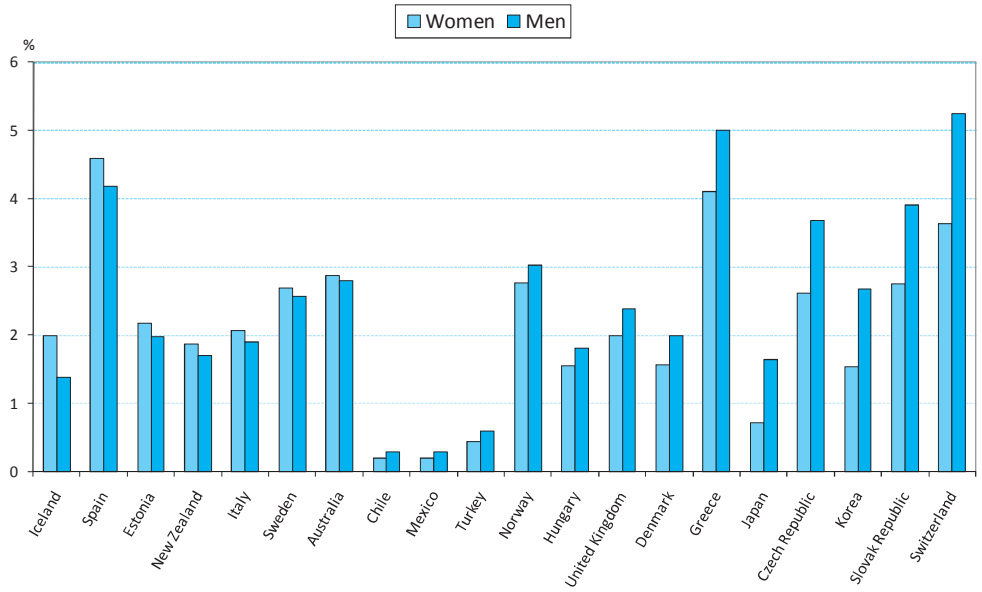


Figure 6.5c. Net entry rates in advanced research programmes by gender, 2005



Countries are ranked in descending order of the gender difference in net entry rates (entry rates for women minus entry rates for men).

The net entry rate of a specific age is obtained by dividing the number of first-time (new) entrants of that age to a specific type of tertiary education by the total population in the corresponding age group (multiplied by 100). The overall net entry rate for each tertiary level is calculated by summing the rates for each single year of age at that level. The *net entry rate* represents the proportion of people in a synthetic age-cohort who enter a given level of tertiary education at some point in their lives. In the case where no data on new entrants by age are available, **gross entry rates** are calculated. Gross entry rates are the ratio of all entrants, regardless of their age, to the size of the population at the *typical age of entry*. Gross entry rates are more easily influenced by differences in the size of population by single year of age.

Notes: Data for Belgium exclude the German-speaking Community of Belgium. Entry rates for Chile, Estonia, Japan, Korea and the Russian Federation are calculated as gross entry rates. Entry rates for tertiary-type B programmes in Austria, Germany and Poland and for tertiary-type A programmes in Italy are calculated as gross entry rates. Entry rates for Ireland include full-time entrants only.

Source: OECD, 2007b.

Females remain under-represented in some areas such as technology and engineering and over-represented in other areas such as teaching and nursing

There are substantial differences in fields of study by gender. Figures 6.6a-6.6d display the percentage of tertiary-type A and advanced research qualifications awarded to females in four different fields of study. In the areas of health and welfare, the proportion of qualifications awarded to females is above 50% in all countries for which data are available and is particularly high in Denmark, Estonia, Finland and Iceland (Figure 6.6a). By contrast, female qualifications in mathematics and computer science represent less than 50% of all qualifications awarded in all countries with particularly low numbers in Belgium, the Netherlands, the Slovak Republic and Switzerland (Figure 6.6b). In the field of humanities, arts and education women are dominant in all countries and more so in Estonia, Greece, Iceland and Italy (Figure 6.6c). Finally in the fields of engineering, manufacturing and construction, women constitute a minority of tertiary graduates, in particular in Austria, Japan, the Netherlands and Switzerland (Figure 6.6d). While these figures may arise from genuine differences in subject and career choice, they are also likely to stem from gender stereotyping. This will in turn have implications for gender differences in graduate employment and earnings, and so for gender inequity throughout life.

Figure 6.6. Percentage of tertiary-type A and advanced research qualifications awarded to females in selected fields of study, 2005

Figure 6.6a Percentage of tertiary-type A and advanced research qualifications awarded to females in the fields of Health and Welfare, 2005

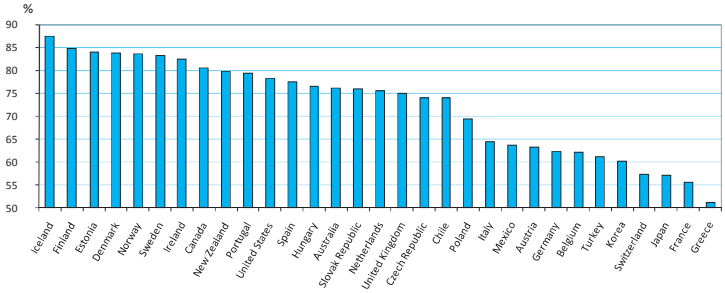


Figure 6.6b Percentage of tertiary-type A and advanced research qualifications awarded to females in the fields of Mathematics and Computer Science, 2005

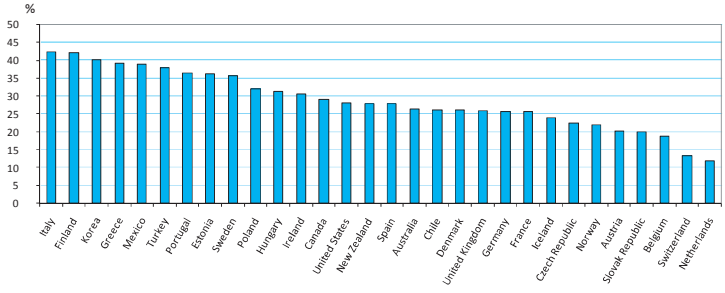


Figure 6.6c Percentage of tertiary-type A and advanced research qualifications awarded to females in the fields of Humanities, Arts and Education, 2005

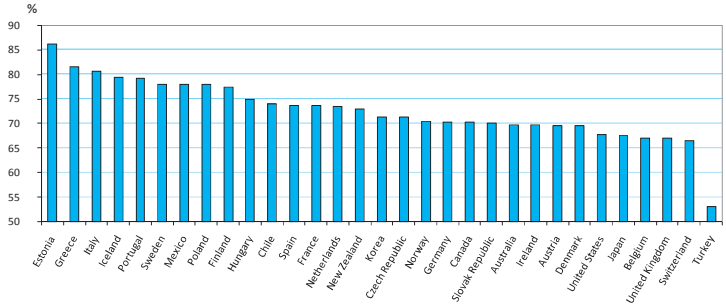
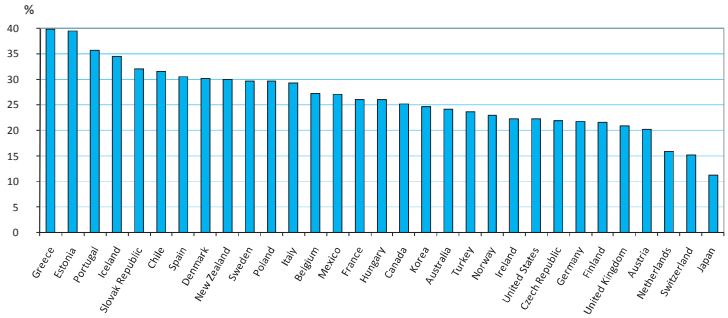


Figure 6.6d Percentage of tertiary-type A and advanced research qualifications awarded to females in the fields of Engineering, Manufacturing and Construction, 2005



Countries are ranked in descending order of the percentage of tertiary-type A and advanced research qualifications awarded to females.

Notes: Data for Belgium exclude the German-speaking Community of Belgium. The year of reference for Canada and Finland is 2004.

Source: OECD, 2007b.

It is interesting to note that, in the large majority of countries, male participation in non-traditional areas of study (or in tertiary education altogether) has not emerged as a policy concern. In this respect, it is interesting that the Australian government, in its review of equity groups in higher education in 2003-2004, decided against monitoring and setting targets for participation of males in non-traditional areas of study, specifically, nursing and teaching, because low participation rates for men in non-traditional areas of study were deemed to relate to labour market choices rather than issues of educational disadvantage.

In some countries tertiary education degrees of women seem to be undervalued by the labour market

There is evidence, in some countries, that tertiary education degrees of women are undervalued by the labour market. In Spain, women's earnings are below men's earnings for all levels of educational attainment and age groups. In 2005, the average annual salary of women in the 20-29 age group who attained, respectively tertiary vocational education, first-cycle of university education, and either the second or third cycles of university education was 22.6%, 19.2% and 15.4% lower than the corresponding average annual salary of men in the same age and qualifications categories. Differences were greater for older age groups.

Analysing the case of Sweden, Berner (2002) assesses why women's tertiary education degrees appear to be undervalued on the job market compared to men's, even though there is an official "equality ideology" and a quite broad "equality policy" in the country. She finds that women received their tertiary degrees in areas which are traditionally dominated by women and where the salaries are low and the working conditions are poor. This is related to the building up of the Welfare State in the 1960's where, since men were already employed in predominantly the private production sector, women took the newly available jobs in the public sector. She notes that, recently, women have invested in previously male dominated careers, which is beginning to improve equitable treatment in the labour market. She adds that inequity problems remain in relation to statistical discrimination and male networks which prevent women from acquiring the full economic benefits from their tertiary education.

Some countries face challenges in making tertiary education accessible to students with an immigrant background

A number of countries face the challenge of integrating immigrants in their educational systems, including tertiary education. For instance, in Norway, while the participation rate in tertiary education for individuals without an immigrant background was 25% in 2002, the rate for first generation immigrants without Norwegian background was 11%. However, remarkably, the participation rate for persons born in Norway with two foreign-born parents attained 23% for the same year. The completion rates for 30-34 year-olds provided similar indications: they reached 36% for individuals without an immigrant background against 20% for first generation immigrants and a notable 39% for persons born in Norway with two foreign-born parents. In Australia, the participation rate for people from non-English speaking backgrounds[6] increased until 1995 reaching 6%

6. Students from non-English speaking backgrounds are defined as students born overseas who arrived in Australia less than 10 years prior to the enquiry and who live in a home where a language other than English is spoken.

(compared with the reference population of 5%) while in 2006 the group comprised just under 4% of the domestic student population.

Participation by non-western minorities is also a significant issue in the Netherlands. On the positive side, it should be noted that total participation is increasing, both in research-intensive universities and universities of applied science. In 2004, non-Western non-native Dutch students represented 13.4% and 8.2% of the intake of universities of applied science and research-intensive universities, respectively. Although non-western students are enrolling in greater numbers in the Dutch tertiary education system, their success rates in graduating are markedly lower than those of the native Dutch (Wolff and Crul, 2003; Severiens *et al.*, 2006). In the universities of applied science, for the cohort beginning in 2000, the gap after five years was 20 percentage points. At the research-intensive universities it was 10 percentage points. The trend in the gaps seems steady, meaning that progress, if any, is slow. It is noteworthy, however, that fewer non-western minorities are leaving their studies. For example, at the research-intensive universities, the proportion of non-western students who leave after five years without a qualification has fallen from 20% to 15% over the past six cohorts (*Centraal Bureau voor de Statistiek*).[7]

The inclusion of ethnical minorities poses serious challenges in some countries

Some countries are ethnically very diverse. For example, Mexico is a multicultural nation with at least 62 different ethnic groups who talk more than 80 languages with various dialects. It happens that the inclusion of some ethnical minorities poses serious challenges in Mexico. In the mid 2000s, indigenous students represented only 1% of the tertiary education population while they represented about 10% of the overall population. In other countries such as the Czech Republic only a trace of those students enrolled in the tertiary education system – an estimated 0.02% of total enrolment – is comprised of Roma students, while they represent between 2 and 3 % of the overall population. The near-absence of Roma students from tertiary education is rooted in the fact that less than 5 percent are estimated to complete secondary studies.

In Canada Aboriginal student enrolment rates are growing substantially faster than those of other demographic groups, albeit from a very low base. Nevertheless, retention and success rates for Aboriginal students remain much lower than those of their non-Aboriginal counterparts (Malatest, 2004). By contrast, New Zealand has been successful with the high level of engagement that the Māori people have had within tertiary education over the last fifteen years. Since 2002 Māori students have had the highest tertiary participation rate of any ethnic group in New Zealand – 23.6% in 2004 against a country average of 14.3%. However, Māori people are concentrated in the lower levels of the tertiary education pathways.

There has been an improvement in the geographical accessibility to tertiary education

In some countries, there has been a significant improvement in the geographical accessibility to tertiary education. For example, Finland has been very successful in this respect through regional expansion of the university system and the creation of polytechnic institutions throughout the country. Twenty municipalities have a university

7. For an indication of retention performance of equity groups (including students with an immigrant background) in Australia, Ireland, the Netherlands and the United States see van Stolk *et al.* (2007).

(or campus) providing degree studies and polytechnics are now established in 88 different localities. Open University studies can be pursued in a variety of units within the education network widely spread around the country. In total, 80 out of 431 Finnish municipalities are "university or polytechnics towns". Similarly, Norway has also been very successful in improving the geographical accessibility to tertiary education. The expansion of tertiary education in Norway in the 1960s and the 1970s led to the establishment of TEIs in all counties. As a result, participation rates of students living in rural areas (22% in 2002, an improvement relative to the 10% of 1992) caught up with those of students living in urban areas (24% in 2002 and 20% in 1992). The expansion of tertiary education in Poland has also been closely linked with the establishment of TEIs in remote areas of the country. The number of tertiary students coming from rural areas doubled between 2002 and 2005, from 10% to 20% of the total population of tertiary students. This is to a great extent related to the creation of new TEIs, in particular private vocational TEIs, in smaller cities and towns across Poland, whose foundation mostly took place in the 1990s. Today TEIs are established in over 100 cities and towns, in all provinces of the country.

However, challenges remain in some countries. In the Russian Federation, tertiary education is 1.7 times more accessible for residents of towns with capital status than for village residents (Voznesenskaya *et al.*, 2004). In Australia, estimates from 2004 indicated that for every 10 urban people who attend university, six non-urban/isolated Australians on a *per capita* basis could be expected to do so. The isolated group is one of the most under-represented groups in Australian higher education and also experiences poor retention rates.

There are increasing opportunities in tertiary education for more mature students but their participation remains limited in some countries

Another positive development has been the expansion of the participation of more mature students in most countries. For instance, in Estonia, the proportion of students aged 26 and older increased from 15.3% in 1995 to 34.1% in 2005. In New Zealand, the average age of tertiary students has increased from 27.6 years in 1994 to 30.9 in 2003. In Iceland, the five years from 2000 to 2004 have seen a remarkable shift in the pattern of social demand by mature students. In 2000, enrolments of the younger age groups (24 years and under) accounted for 45% of the whole; those aged 30 and above, 28%. Five years on the corresponding statistic stood at 37% for both groups. Similarly, in Spain in 2004-05 over a third (35.5%) of Spanish university students were above 24 years of age, while in 1999-2000 this proportion was 26.5%.

In part, the growing participation of more mature students reflects new opportunities offered to adults to undertake tertiary studies. For instance, in New Zealand, the provision for the admission on the basis of non-formal training (the recognition of non-credentialed prior learning, part of the National Qualifications Framework assessment model) and the access to the student support system for individuals of all ages has greatly benefited the participation of adults in tertiary education.

In other countries, such as Portugal, older students are significantly under-represented. Until recently students over 25 years of age and without formal qualifications could enter tertiary education by sitting in special entrance examinations. However, the number of students using this alternative entrance road was very limited,

representing only 1.1% of total first year enrolments in 2004/05.[8] In Korea, of all university enrolments (tertiary-type A programmes) in 2006, only 14.1% were 25 or older.

In some countries going to tertiary education is seen as mostly for young people leaving school, and not something seen as open to older people seeking a "second chance". In this context, participation of more mature students is hindered by a number of factors which vary across countries:

- Often no special admission paths exist for more mature students and entry is based on an entrance examination and school performance. Access is made more difficult when specialist courses to prepare older people for the entrance examination are not available.
- Sometimes the funding of the system favours school-leavers. Student support systems may not be accessible for older individuals or students attending on a part-time basis, and fees remission might be on the basis of performance in the entrance examination.
- Mature age students may prefer and need to study part-time, combining work and family responsibilities with study. However, offerings of institutions might generally assume full-time participation that is difficult for adults already in employment. In cases where some teaching is provided in the evening or at weekends, students might be expected to pursue the same number of courses per year as full-time students.

Students with disabilities remain under-represented in tertiary education

The profile of students with disabilities varies widely across countries depending on the definition of disability used: while in France most students with disabilities in tertiary education have a physical or a sensory impairment, in the United Kingdom they mostly have an unseen disability such as dyslexia, a learning difficulty or a mental illness and in Germany mainly a chronic illness (OECD, 2003).

Participation of students with disabilities in tertiary education has expanded in most countries. In the United Kingdom for instance, the number of students in tertiary education with a known disability increased from 2% of the student population to 5.4% between 1994 and 2003 while in France such figure has increased by a factor of ten since 1981. In Sweden, participation in tertiary education by students with a disability grew by 125% between 1993 and 1999 while in New Zealand it grew 185% between 1998 and 2003 to reach 5% of all students in 2003. In Australia, students with disabilities comprised 4% of all higher education students in 2006, up from 2% in 1996.

However, students with disabilities remain under-represented within tertiary education. For instance, in New Zealand, students aged 15 to 44 with disabilities participated at about a quarter of the rate of people aged 15 to 44 who did not have disabilities. In Poland, in 2004, disabled students accounted only for 0.48% of the tertiary student population (compared to 0.26% just two years before). In Austria, as in many OECD countries, students with disabilities tend to be older compared to non-disabled

8. In 2006 the Portuguese Government approved a new regime that simplifies and promotes the access to higher education to those over 23 years. In 2006-07, around 10 850 mature students gained access to tertiary education through this scheme.

students (Wroblewski and Unger, 2003). In the United Kingdom, the acceptance rate of students with disabilities (80.4%) was in 2005 slightly lower than that for non-disabled students (81%) especially for those having a sensory impairment (79.1%), a mental health problem (74.7%), an unseen disability (79.0%) or multiple disabilities (77.2%) (data from the *Higher Education Statistics Agency* – HESA). In addition, students with a disability tend to access shorter programmes compared to their non disabled colleagues or degrees that do not combine general and vocational subjects (such as arts or social sciences courses) and that therefore do not provide them with valuable work experience. In the United States, young people in the general population are about four and a half times more likely to take a 4-year university degree than young people with disabilities (Wagner *et al.*, 2005).

Students with disabilities are also less likely to be successful in their tertiary studies than their non disabled peers. In the United Kingdom, students with disabilities have fewer chances to access post-graduate degrees, especially those presenting dyslexia, blindness, an autistic syndrome and multiple disabilities (HESA). In France, the students with disabilities who are the least likely to access post-graduate courses present health problems, a psychological disorder or a temporary incapacity (Ebersold, 2007). These difficulties may be due to the severity of impairment: students with multiple disabilities, emotional disturbances or mental retardation tend to be less likely to access tertiary education and to succeed than other students with disabilities. They may also be ascribable to modes of funding that misjudge the impact of evolving disorders on the pace at which students progress as well as the cost of time wasted in poor accessibility and/or accommodation. These difficulties may also be contingent on the absence of support or support being inappropriate to students' needs and rhythms. In the United States, 22% of students with disabilities attending tertiary education in 2001 did not receive the necessary services (NCES, 2005). In Ontario, Canada, 44% of students with disabilities indicate that their income from all sources is insufficient to cover educational services and/or equipment costs and that they face a significant pressure that can jeopardise their ability to remain enrolled (OECD, 2003).

In most countries there is little emphasis on equity of outcomes

In most countries, equity policies have traditionally emphasised equity of access over equity of outcomes. Typically less accent is placed on student progression throughout tertiary study, with little by way of special support and follow-up measures to assist those students who experience the greatest difficulty, whether this is primarily academic or socio-economically-based. In these cases students' progress is not closely monitored and students whose disadvantaged background has been identified receive no particular support. In addition, considerably fewer data are available on equity of outcomes – *e.g.* completion rates by under-represented groups in tertiary education.

This is changing in a number of countries. For instance, in Norway, as a result of the *Quality Reform*, an increasing focus on equity of outcomes emerged. More emphasis is being placed on student progression throughout their tertiary studies with special support and follow-up measures to assist those students who reveal more difficulties. Similarly, in Mexico, a new stress on equity of outcomes is reflected in the wide availability of tutoring programmes in TEIs: typically, students' progress is closely followed by a teacher and students whose disadvantaged background has been identified (*e.g.* recipients of means-tested scholarships) are entitled to specific support.

6.6 Factors affecting equity in tertiary education and country policy responses

6.6.1 Funding-related factors

Equity issues in tertiary education which relate to the funding of tertiary education were discussed in Chapter 4. This included, in particular, the equity concerns raised by approaches to funding tertiary education systems (*e.g.* whether funding approaches are regressive, whether cost-sharing is more equitable) and the issue of liquidity constraints faced by students at the time of attendance associated with a discussion of the financial support to students. Below, the analysis focuses on factors with an impact on equity in tertiary education which bear no relation to approaches to funding tertiary education.

6.6.2 Family background

The impact of family background on schooling performance is well established

The most solidly based finding from research on school learning is that the largest source of variation in student achievement is attributable to differences in what students bring to school – their abilities and attitudes, and family and community background (OECD, 2007a; OECD, 2005b). Educational inequalities linked to family background tend to persist (Feinstein, 2004). The likelihood of staying on after the compulsory school-leaving age is linked to family background and social disadvantage in many countries (Machin, 2006a).

Family background is also a strong influence on tertiary education participation

There is also strong evidence that family background affects participation in tertiary education. Results in Saarela and Finnaes (2003) suggest that family background appears to be a crucial determinant of tertiary education attendance in Finland (with declining importance in recent years) but appears to have a stronger impact on the transition from compulsory school to upper secondary school. Lauer (2003), using the German Socio-economic Household Panel and the *Formation et Qualification Professionnelles* survey, finds that parental education affects significantly the probability to enrol in tertiary education in both Germany and France. Gayle *et al.* (2002) use the Youth Cohort Study of England and Wales (with young people born in 1969 and 1970) to find evidence that parental education and family's social class influence a young person's chance of studying for a tertiary degree.

Butlin (1999) uses the 1995 School Leavers Follow-up Survey to show that in Canada secondary school graduates with at least one university-educated parent had higher odds of attending university, when controlling for factors such as gender, family type, school grades, academic problems in primary school, and class participation. Knighton and Mirza (2002), examining access to post-secondary education in Canada using the first wave of the Survey of Labour and Income Dynamics (which followed 31 000 Canadians aged 15 years and older, from 1993 to 1998), find evidence of a combined effect of parents' education and household income on post-secondary participation. In addition, they find that parents' education had a strong effect on whether post-secondary participants pursued university rather than a non-university institution. Results by Maani (2006), examining choice of TEI by young adults born in Christchurch (New Zealand) in 1977, provide strong support for the hypothesis that family income is associated with the

type of tertiary education attended, where the probability of university attendance increases significantly with parental income, even when controlling for personal academic ability and performance.

Parental income might be more of an influence through its long-term effect on cognitive and noncognitive ability rather than through short-term credit constraints

Parental income in the child's schooling years is a strong predictor of tertiary education attendance (Black and Sufi, 2002; and Cameron and Heckman, 2001, for the case of the United States; Machin and Vignoles, 2004, for the case of the United Kingdom). The impact of parental income might occur through the effect of credit constraints facing families during the typical age of tertiary education attendance or through the long term factors that promote cognitive and noncognitive ability during childhood and adolescence. Both Carneiro and Heckman (2002) and Cameron and Heckman (2001) find strong evidence, for the case of the United States, that the long term factors reflected in individuals' ability are the major determinants of the family income – tertiary education attendance relationship. Both research studies conclude that parental background and family environment are more influential than liquidity constraints in participation in tertiary education in the United States.

Results by Maani (2006), who examines higher education choices of young adults born in Christchurch (New Zealand) in 1977, support the findings above. This study indicates that, if people continue at school at age 16, participation in tertiary education was not significantly influenced by parental income. Rather, it is largely influenced by academic performance at secondary school, peer influence and intentions expressed at age 16 to attend university or polytechnic. Parental income is, by contrast, an important determinant of academic performance. A study by Maani and Kalb (2007), using panel data from New Zealand, finds that academic performance is influenced by many personal and family factors, including parental income in adolescent years. This indicates that parental income has an indirect influence on participation in tertiary education through academic performance at secondary school.

6.6.3 School factors

The organisation of schooling has an impact on opportunities for tertiary education study

There is evidence that highly segmented or "tracked" systems of secondary education – *i.e.* those that separate students into distinct tracks of preparation at an early age, as distinct from those that are comprehensive – have the effect of widening inequalities in entry to tertiary education.[9] Systems with high levels of segmentation show a stronger relationship between family background and student achievement (with consequences for tertiary enrolment). This is because systems of education that sort and segment students allow inequalities in family circumstances to combine with peer and instructional inequalities to produce wider variation in secondary achievement, and more unequal opportunities for entry into tertiary education.

9. It should be noted that segmentation may take the form of: *(i) school tracking* when students, from an early age, are grouped into different school types, typically by academic ability; or *(ii) class tracking* when students are grouped into distinct classes within similar schools, typically also by academic ability.

In a number of countries such as Austria, the Czech Republic, Germany, Hungary and the Netherlands the school tracking of students occurs at an early age. For instance, in the Netherlands, during secondary school, beginning at 12 years, students are streamed into three hierarchically ordered groups on the basis of academic potential: the VWO, the stream constituting the pathway to research intensive universities (though some go to the universities of applied science); the HAVO which provides students for the universities of applied science (HBOs/*hogescholen*) or tertiary-level vocational training (MBOs); and the VMBO which prepares students solely for MBO tertiary training. In total about 60% of students enrolled in upper secondary education are in vocational programmes; and at the level of tertiary education about two thirds of all students are enrolled in the HBOs rather than the research-intensive universities.

Studies have investigated whether early tracking has an effect on the relationship between school performance and family background. Hanushek and Wöβmann (2006), using six international student assessments covering 26 countries, show that early tracking reinforces educational inequalities. Schütz *et al.* (2005) reach similar results. They show that family background is a strong influence on student achievement in class tracking countries such as the United States and the United Kingdom and in school tracking countries such as Germany and Hungary, and considerably more so if tracking takes place at an early age. Argys *et al.* (1996a, 1996b) and Betts and Shkolnik (2000) provide evidence that class tracking accentuates inequities in secondary school performance in the United States.

Other studies provide evidence that family background is a strong determinant of the track a student follows. Dustmann (2004) and Schnepf (2003) find a strong effect of parental background on the access to the high ability track in Germany (*Gymnasium*). Münich (2005) predicts that parental education is the most powerful determinant of access to the high-ability track in the Czech Republic. For instance, growing up with a mother who has attained tertiary education increases the probability of being enrolled in a *gymnasium* by 31% *vis-à-vis* a student whose mother has only primary education. Similarly, Riley (1997) shows that, in the United States, sorting into high-level math and science classes is highly correlated with parental income.

Uneven distribution of teacher quality and school resources influences opportunities to access tertiary education

Inequalities in the access to tertiary education are also influenced by differences in the quality of schooling or the distribution of schooling resources. Critical factors are those involving teachers and teaching, likely to be the most important influences on student learning of those variables which are potentially open to policy influence (OECD, 2005b). There is evidence that in countries experiencing general teacher shortages, students in schools in remote or disadvantaged areas tend to find themselves in classes with the least experienced and qualified teachers. Teachers who work in schools with high concentrations of disadvantaged students often experience higher rates of attrition and turnover, which raises concerns about the continuity of educational programmes in such schools (OECD, 2005b).

Other school factors may hinder opportunities to reach tertiary education

OECD (2007a) identifies a number of other school issues which raise concerns about equity of opportunities for more disadvantaged groups, including:

- The risks to equity of school choice;
- Potential dead ends in upper secondary education;
- Limited instruments for second chances to gain from education;
- Limited support to help those who fall behind at school;
- Often weak links between schools and families;
- Potential absence of special provisions for special groups such as migrants and minorities; and
- Limited provision of early childhood education.

6.6.4 Peer effects

There is a large body of evidence that shows that students benefit from being exposed to able peers (Hoxby, 2000; Hanushek *et al.*, 2003; McEwan, 2003; Robertson and Symons, 2003). Peer influence is likely to be large in relation to tertiary education enrolment, not only through peer effects on own achievement throughout school education but also through the peers one is exposed to at the time of the enrolment decision. Ayalon and Addi-Raccah (2003), using longitudinal data on all Israeli students who completed secondary school in 1991, find empirical evidence that students who attend schools with a greater proportion of more academic able students and/or students from better-off families are more likely to enrol in tertiary education. Similarly, Martin *et al.* (2005), analyzing institutional data on 1999 admissions to the University of California, find evidence that the socioeconomic and racial composition of the applicant's school influences the probability of admission. Brooks (2003) draws on a qualitative, longitudinal study in the United Kingdom to suggest that while families have a strong influence on young people's conceptualisation of tertiary education, friends and peers play an important role in informing decisions about what constitutes a "feasible" choice.

6.6.5 Articulation between secondary and tertiary education

One clear challenge countries face as a result of the diversification of tertiary education is the nature of the articulation with secondary education. In terms of equity this is pressing in light of the fact that disadvantaged groups tend to enrol in larger proportions in vocational tracks of upper secondary education. This calls for particular attention to the links between non-academic tracks in upper secondary school and non-university sector provision in tertiary education, including bridging education programmes, designed to assist students in developing the skills necessary for success in tertiary education. Effectively, institutional diversity within tertiary education is to be closely associated with curricular diversity in upper secondary school and with the recognition of tracks beyond the academic as valid for access to tertiary education (see Chapter 3, Section 3.5.1).

In Norway, and unlike many other OECD countries, the upper secondary vocational track offers students feasible pathways into tertiary education. This can occur in two ways: either by the young person completing an upper secondary vocational programme and then doing a supplementary one-year course of general education; or by transfer from a vocational programme to a general education track part way through upper secondary schooling. Data from the University of Oslo, the biggest and oldest in the country, indicated that in the 2004-05 academic year, 15% of all new students had come through

one of these routes. Furthermore, the proportion of applicants from these routes was only slightly less than the proportion admitted. This is a good indicator of the likely impact upon social mobility of the upper secondary pathways reforms that took place in Norway in the mid 1990s. Other countries with similar policies are Iceland and Sweden. Ekström (2003) studied changes in the Swedish secondary education system and the related effects on admission to tertiary education. The author looked at the 1991 school reform, which added an extra year of education for those in the upper secondary vocational education programmes (from 2 to 3 years). She finds that the reform had positive effects on enrolment in tertiary education, which was one of the objectives of the reform.

In Portugal, the *New Opportunities* programme, launched in 2007, represents an important recognition of the need to draw in a wider range of learners and to cater for their varying needs in innovative ways. Of particular note are the strategies for double certification (general and professional) for initial vocational training courses, the objective of increasing from 22% to 50% the proportion of technological programmes available to upper secondary students by 2010, and building bridges between general, technical and professional streams.

6.6.6 Organisation of tertiary education

The ability of the tertiary education system to accommodate demand has equity repercussions

As seen in Section 6.4, the expansion of tertiary education widens opportunities for all groups of students. If the tertiary education system limits entry to qualified students (as a result of capacity limitations) and therefore does not accommodate demand for tertiary education, individuals from disadvantaged backgrounds are more likely to be among the individuals excluded. Psacharapoulos and Tassoulas (2004) illustrate this for the case of Greece, where the number of available places in public TEIs is restricted and entrance is based on a national examination. Analyzing the entire population of secondary education graduates taking the 2000 national secondary school examination, they find that poor districts, evening schools, and public secondary schools are associated with lower achievement (and therefore more limited access to tertiary education). This further leads to greater proportions of disadvantaged students entering the non-university sector.

Equity objectives are likely to advance if available programmes fit the interests of a wide range of students

An indication of the need to diversify tertiary education is that its pool of prospective students in the secondary system is larger and increasingly more diverse than before. It is also more varied with respect to social backgrounds, academic preparation, and aims. Further diversification of tertiary systems creates opportunities for more disadvantaged groups who may not otherwise gain (or wish to gain) access to the more traditional academic forms of tertiary education.

An example of the expansion of opportunities in tertiary education is the creation of the Technological Universities subsystem in the early 1990s in Mexico, TEIs which offer 2-year vocational-oriented tertiary-level degrees. These have had a positive impact in expanding access for the most vulnerable individuals and regions. They are located in lower-middle to low income areas, where 50 to 60% of families earn the equivalent or less than three minimum wages with the consequence that 90% of their students represent the first generation to access tertiary education. In New Zealand, in line with the diverse

organisational nature of the system, the student population is diverse as well. Of the half million students, 68% study at sub-degree certificate and diploma level (2-year degrees or courses of shorter duration), 25.6% at bachelor's level and a small proportion (6.4%) at the post-graduate level.

Pierson and Wolniak (2003) conclude that the establishment and growth of the two-year community colleges have had a dramatic impact on the character of post-secondary education in the United States. They suggest that the existence of two-year colleges has substantially increased both the access to tertiary education as well as the social mobility of numerous individuals whose education might otherwise have ended with secondary school. However, they indicate that a major critique in the literature on the two-year college posits that, while it may function to guarantee equality of opportunity for access to tertiary education, in relation to four-year colleges and universities, it has not provided equal opportunity in terms of the outcomes or benefits of higher education.

Financial incentives for TEIs to advance equity objectives are a possible instrument

Special provisions in mechanisms to allocate public funds to TEIs

The great majority of countries use special provisions in mechanisms to allocate public funds to TEIs as a means to encourage the enrolment of students from under-represented groups (see Table 6.1) – the exceptions are Greece, Iceland, Norway and Spain. Six systems – Australia, Flemish Community of Belgium, Croatia, New Zealand, the Russian Federation and the United Kingdom – provide extra-funds to TEIs per enrolled student from an under-represented group (typically through a funding premium per each student). In Australia, a funding premium per student is given to the TEIs which attract students from low socio-economic backgrounds; students from rural and isolated areas with a low socio-economic background; and students with a disability. In New Zealand a premium per enrolled Māori or Pasifika student is given to TEIs. In the Flemish Community of Belgium and the United Kingdom, TEIs receive additional funding per student from lower socio-economic groups and per student with a disability. Special funds to assist with the participation of students with disabilities are provided in the Netherlands (as part of block grants) and in Sweden (upon application). In Northern Ireland, a special project provides funds for TEIs to develop their own strategies and approaches to facilitate access to tertiary education by under-represented groups, including partnerships with schools whose graduates exhibit low levels of participation in tertiary education.

In addition, a number of countries – Australia, Chile, China, Czech Republic, Japan, Mexico, Poland and the Russian Federation – provide TEIs with special funds to be distributed as grants to students from under-represented groups. The targeted groups are students from low socio-economic backgrounds (Australia); students from rural and isolated areas with a low socio-economic background (Australia, Chile, China); indigenous students (Australia, Chile, China, Mexico); ethnic minorities (Roma students in the non-university tertiary sector of the Czech Republic), orphans and students with no parental care (Russian Federation), and students enrolled in particular regions (TEIs in the region of Hokkaido in Japan). In Australia, the Czech Republic (for the university sector), Estonia (for students whose mother tongue is not Estonian), Japan, New Zealand (for students with disabilities), Portugal, the Russian Federation and England, special funds are provided to TEIs for the development of an appropriate environment for students with special needs. In Korea and Poland, TEIs located in disadvantaged areas receive extra funding. In Finland, TEIs receive particular funds to enhance equal opportunities.

Table 6.1. Equity in tertiary education: measures targeted at under-represented groups, 2007

	Special provisions in mechanisms to allocate public funds to TEIs used to encourage the enrolment of under-represented groups of students	Under-represented groups of students who benefit from a targeted grant scheme	Do special selection provisions exist in public TEIs to improve the participation of some groups of under-represented students?	Are there supporting programmes in public TEIs specifically targeted at under-represented groups during the course of studies?
Australia[1]	**(1) Extra funds to TEIs per student from under-represented groups** (students from low socio-economic backgrounds; low socio-economic students from regional and remote areas; and disabled students) (only public TEIs)[2] **(2) Special funds to TEIs to distribute as grants to students from under-represented groups** (students from low socio-economic backgrounds; low socio-economic students from regional and remote areas; and low socio-economic Indigenous students) (only public TEIs) **(3) Special funds to TEIs to develop an appropriate environment for students with special needs** (only public TEIs)	**Socially disadvantaged students, geographically-disadvantaged students** (A small number of private institutions benefit from these special provisions)	**Yes, at the discretion of TEIs and generally used** (students from low socio-economic backgrounds, regional and remote areas, non-English speaking backgrounds, Indigenous Australian backgrounds and disabled students)	**Yes** (only eligible TEIs) (students from low socio-economic backgrounds, regional and remote areas, non-English speaking backgrounds, educational disadvantage associated with gender and disabled students) **Yes, at the discretion of TEIs and generally used** (students from low socio-economic backgrounds, regional and remote areas, non-English speaking backgrounds, Indigenous Australian backgrounds, women in non-traditional areas of study and disabled students)
Belgium (Flemish Community)	**Extra funds to TEIs per student from under-represented groups** (lower socio-economic groups and disabled students)	**None**	**No**	**Yes, at the discretion of TEIs and generally used** (incentives with public funds)
Chile	**Special funds to TEIs to distribute as grants to students from under-represented groups** (indigenous groups and students from remote areas)	**Socially-disadvantaged students, geographically-disadvantaged students** (in public and private institutions)	**Yes, at the discretion of TEIs and generally used** (disabled students) **Yes, at the discretion of TEIs but rarely used** (indigenous groups)	**Yes, at the discretion of TEIs but rarely used** (indigenous groups)
China	**Special funds to TEIs to distribute as grants to students from under-represented groups** (indigenous groups and students from rural areas)	**Socially-disadvantaged students** (in public institutions only)	**Yes, at the discretion of TEIs and generally used** (indigenous groups, disabled students)	**Yes, imposed by national framework on all TEIs** (disabled students)
Croatia[3]	**Extra funds to TEIs per student from under-represented groups** (Disabled students, socially-disadvantaged students, citizens from the city of Vukovar, and Roma people)	**Disabled students, socially-disadvantaged students, citizens from the city of Vukovar, and Roma people**	**Yes, imposed by national framework on all TEIs** (Roma people) **Yes, at the discretion of TEIs and generally used** (disabled students)	**Yes, at the discretion of TEIs but rarely used** (disabled students)
Czech Republic	**(1) Special funds to TEIs to distribute as grants to students from an under-represented group** (Roma students) (only at ISCED 5B level); **(2) Special funds to TEIs to develop an appropriate environment for students with special needs** (only at ISCED 5A level)	**Socially-disadvantaged students** (Roma students) (only at ISCED 5B level), **students with special needs**	**No**	**No**
Estonia	**Special funds to TEIs to develop an appropriate environment for an under-represented group** (students from non-Estonian speaking backgrounds)	**Students with special needs and students from non-Estonian speaking backgrounds**	**Yes, at the discretion of TEIs and generally used** (disabled students)	**Yes, at the discretion of TEIs and generally used** (students from non-Estonian speaking backgrounds) **Yes, at the discretion of TEIs but rarely used** (disabled students)
Finland	**Special funds to TEIs to develop an appropriate environment for students with special needs**	**None**	**No**	**No**
Greece	**None**	**Socially-disadvantaged students**	**Yes, imposed by national framework on all TEIs**	**No**
Iceland	**None**	**None**	**No**	**No**
Japan	**(1) Special funds to TEIs to distribute as grants to students from under-represented groups** (only TEIs in the region of Hokkaido) (private institutions benefit from these special provisions) **(2) Special funds to TEIs to develop an appropriate environment for students with special needs**	**Socially-disadvantaged students**	**Yes, at the discretion of TEIs but rarely used** (indigenous groups, disabled students, descendants of repatriated people from China)	**Yes, at the discretion of TEIs** (disabled students)
Korea[4]	**Extra funds to TEIs located in disadvantaged areas**	**Socially-disadvantaged students** (in public and private institutions), **geographically-disadvantaged students** (in public institutions only)	**Yes, at the discretion of TEIs and generally used**	**Yes, imposed by national framework on all TEIs** (disabled students) **Yes, at the discretion of TEIs but rarely used** (indigenous groups)
Mexico	**Special funds to TEIs to distribute as grants to students from an under-represented group** (indigenous groups)[5]	**Socially-disadvantaged students**	**Yes, at the discretion of TEIs but rarely used**	**Yes, imposed by national framework on all TEIs** (students receiving means-tested grant)
Netherlands[6]	**Funds included in the block grant for students with special needs**	**None**[7]	**Yes, at the discretion of TEIs and generally used** (immigrant populations)	**Yes, at the discretion of TEIs and generally used**
New Zealand	**(1) Extra funds to TEIs per student from under-represented groups** (Māori, Pasifika) (only public TEIs) **(2) Special funds to TEIs to develop an appropriate environment for students with special needs** (disabled students) (only public TEIs)	**Socially-disadvantaged students** (Māori and Pasifika) (in public and private institutions)	**Yes, at the discretion of TEIs but rarely used** (may include Māori, Pasifika and other factors relating to disadvantage)[8]	**Yes, at the discretion of TEIs and generally used** (may include Māori, Pasifika, disabled students, migrants and refugees, students from lower socio-economic backgrounds *etc.*)[9]

Table 6.1. **Equity in tertiary education: measures targeted at under-represented groups, 2007** (continued)

	Special provisions in mechanisms to allocate public funds to TEIs used to encourage the enrolment of under-represented groups of students	Under-represented groups of students who benefit from a targeted grant scheme	Do special selection provisions exist in public TEIs to improve the participation of some groups of under-represented students?	Are there supporting programmes in public TEIs specifically targeted at under-represented groups during the course of studies?
Norway[10]	**None**	**None**	**Yes, imposed by national framework on some TEIs**[11]	**Yes, at the discretion of TEIs but rarely used** (study programmes with extra language training and monitoring aimed at immigrant students)
Poland	**(1) Special funds to TEIs to distribute as grants to students from under-represented groups** **(2) Extra funds to TEIs located in disadvantaged areas**	**Students with special needs** (in public and private institutions)	**No**	**Yes, at the discretion of TEIs and generally used** (disabled students)
Portugal	**Special funds to TEIs to develop an appropriate environment for students with special needs**	**Students with special needs**	**Yes, at the discretion of TEIs but rarely used**	**Yes, at the discretion of TEIs but rarely used**
Russian Federation[12]	**(1) Extra funds to TEIs per student from under-represented groups** (students with special needs, orphans, students without parental care) (only public TEIs) **(2) Special funds to TEIs to distribute as grants to students from under-represented groups** (orphans and full-time students without parental care) (only public TEIs) **(3) Special funds to TEIs to develop an appropriate environment for students with special needs** (only public TEIs)	**Socially-disadvantaged students** (orphans, students without parental care); **geographically-disadvantaged students** (students living in remote areas and hard climatic conditions, students which suffer from radiation disaster); **students with special needs** (disabled students)	**Yes, imposed by national framework on all TEIs** (orphans, students without parental care aged up to 23, disabled students, students aged up to 20 with one disabled parent)[13]	**Yes, at the discretion of TEIs and generally used** (disabled students, orphans, students without parental care)
Spain	**None**	**None**	**Yes, at the discretion of TEIs but rarely used**	**No**
Sweden	**Specific funds available to TEIs upon application for disabled students**	**None**	**Yes, imposed by national framework on all TEIs** (under-represented gender)	**Yes, imposed by the national framework on all TEIs** (disabled students)
Switzerland	**Targeted funds** (project specific funding)	**Under-represented gender**	**No**	**Yes, imposed by national framework on some TEIs** (Support of gender equity in universities and universities of applied sciences)
United Kingdom (Eng.)[14]	**(1) Extra funds to TEIs per student from an under-represented group** (students from lower socio-economic groups) (only public TEIs) **(2) Special funds to TEIs to develop an appropriate environment for students with special needs** (only public TEIs)	**Students with special needs** (in public institutions only)	**No**	**Yes, at the discretion of TEIs and generally used**
United Kingdom (N.Ir.)[14]	**(1) Extra funds to TEIs per student from under-represented groups** (students from disadvantaged backgrounds, disabled students) **(2) Special project funds to TEIs** specifically aimed at allowing them to test their strategies and approaches to making access to tertiary education available to under-represented groups, and to develop partnerships with schools with traditionally low levels of participation in tertiary education	**Socially-disadvantaged students, disabled students**	**No**	**No**
United Kingdom (Scot.)[14]	**Extra funds to TEIs per student from under-represented groups** (socially disadvantaged students, disabled students)	**Socially-disadvantaged students, disabled students**	**Yes, at the discretion of TEIs but rarely used**	**Yes, at the discretion of TEIs and generally used**
United Kingdom (Wal.)[14]	**Extra funds to TEIs per student from an under-represented group** (socially disadvantaged students, disabled students)	**Disabled students, students from Communities First areas** (*i.e.* students studying through the medium of Welsh), **Care Leavers** (*i.e.* children who were previously in the care of local authorities)	**Yes, at the discretion of TEIs and generally used**	**Yes, at the discretion of TEIs and generally used**

Definitions: This table addresses existing national policies targeted at encouraging the enrolment of under-represented groups of students in under-graduate programmes.
Under-represented groups of students refers to students who belong to specific groups who are under-represented in tertiary education. Though the situation varies across countries, such groups may include indigenous groups, ethnic minorities, immigrants, students from low socio-economic backgrounds, students living in rural and/or remote areas, and students with special needs (*e.g.* disabled students).
Targeted grants refers to grants that aim at supporting the enrolment of members of under-represented groups. Membership of such a group is an eligibility criterion to apply for the grant. General grant schemes that take into account the membership of an under-represented group in the selection criteria for awarding grants – but not in the eligibility criteria – are not considered (these are considered in Table 4.5 in Chapter 4. See Table 4.5 for the distinction between 'eligibility' and 'selection' criteria). This table considers national-level publicly-funded grant schemes targeted at under-represented under-graduate students attending public or private institutions, except schemes targeted at financially needy students (which are considered in Table 4.5). Grants conferred by institutions with their own funds are not considered.
Special selection provisions refers to the application of criteria other than academic merit in selection procedures.
Supporting programmes refers to institution-level support schemes such as the monitoring of study progress and tutoring programmes.

Notes: *TEI:* Tertiary education institution
1. Information concerns universities only and does not account for the non-university sector.
2. TEIs must be eligible to receive extra or special funds.
3. Croatian Homeland War veterans (and some family members) benefit from a targeted grant scheme and special selection provisions.
4. Children of war veterans that were injured benefit from a merit-based grants scheme.
5. Intercultural universities have the purpose of serving Mexico's indigenous population, while open to other students.
6. Issues covered in this table refer to publicly-subsidised TEIs.
7. Students from low-income families receive more grant funds than other students. Disabled students are eligible for an extra year of grants/loans under the national loans and grants schemes.
8. Special selection provisions only apply to limited entry courses, in particular Medicine, and are developed at the discretion of the TEI (within the constraint of relevant human rights legislation).
9. Supporting programmes are developed at the discretion of public TEIs, however, they are required to do so within the broader framework of the Tertiary Education Strategy, which identifies a number of groups that face educational disparities that TEIs should address.
10. Disabled students receive assistance through the social security and TEIs are required to develop an appropriate environment for students with special needs within the broader framework of the government action plans.
11. Male applicants receive extra entrance points for veterinary and animal care studies, whereas female applicants receive extra entrance points for informatics and engineering, agricultural, and maritime studies.
12. War veterans benefit from a targeted grant scheme and special selection provisions.
13. Admissions at public TEIs for under-represented students are on a non-competitive basis. But students must pass entrance examinations.
14. Issues covered in this table refer to publicly-subsidised private TEIs. All higher education institutions in the United Kingdom are legally private independent bodies with a charitable status, most of which are publicly funded.

Source: Derived from information supplied by countries participating in the project. The table should be interpreted as providing broad indications only, and not strict comparability across countries.

Box 6.1. Higher Education Equity Programmes in Australia

The goal of the current higher education equity policy in Australia is to remove barriers to access to higher education for all Australians, with a particular focus on assisting groups experiencing significant educational disadvantage. The higher education equity policy is based on the assumption that there are factors or characteristics which, for certain social groups, inhibit access to and ability to succeed in higher education. A range of equity programmes are in place.

Higher Education Equity Support Programme (ESP)

The allocation of ESP funds to eligible TEIs by the Department of Education, Employment and Workplace Relations (DEEWR), is based upon a formula which takes into account the universities' number of domestic students from a low socio-economic background and students from regional and remote areas; and the retention and success ratios for these groups. For 2008, DEEWR allocated, AUD 11.474 million under the ESP to eligible providers. Institutions have flexibility to target assistance where most needed to enhance access and participation of students from low socio-economic backgrounds, students from regional and remote areas, students with a disability and students from non-English speaking backgrounds. In addition, providers may implement measures that assist in overcoming educational disadvantage associated with gender. To receive ESP funding, TEIs must meet minimum eligibility criteria, including:

- run outreach programmes to attract equity group students;
- offer specialised support services for enrolled equity group students;
- offer Commonwealth Scholarships; and
- offer a complementary institutional equity scholarship programme.

Commonwealth Scholarships Programme

The Commonwealth Scholarships Programme (formerly known as the Commonwealth Learning Scholarships) was introduced in 2004 as part of the Australian Government's higher education reform package, *Our Universities: Backing Australia's Future*. The programme assists eligible students from low socio-economic status backgrounds, who are enrolled in Commonwealth supported places in under-graduate and associate degree courses, as well as, in the case of Indigenous students, enabling courses. There are two categories of scholarships: Commonwealth Education Costs Scholarships, valued at AUD 2 162 a year in 2008, assist students with general costs associated with higher education. Commonwealth Accommodation Scholarships, valued at AUD 4 324 a year in 2008, assist students from regional and remote areas, who have to relocate to attend university, with their accommodation costs. Both scholarships are indexed annually. In addition, from 2008 funding will be provided to award 1 000 Indigenous Access Scholarships a year to assist Indigenous Australians wanting to access higher education, particularly those who need to relocate from regional and remote areas to undertake an approved higher education enabling course or under-graduate course. In 2008, these scholarships are valued at AUD 4 080 (indexed annually). Over the five year period, 2005-2009, the Australian Government will have allocated around AUD 476 million to eligible higher education providers to provide over 153 000 Commonwealth Scholarships to eligible students.

Indigenous Support Programme

Commonwealth grants to higher education providers include allocations from the Indigenous Support Programme to meet the special needs of Indigenous Australian students and to advance the goals of the National Aboriginal and Torres Strait Islander Education Policy. Activities supported through this programme include the establishment of Indigenous Support Centres, assistance with study skills, personal counselling and cultural awareness activities. To be eligible to receive Indigenous Support Programme grants in any one year, providers must demonstrate that they have:

- implemented strategies for improving access, participation, retention and success of Indigenous students;
- guaranteed the participation of Indigenous people in decision-making processes; and
- developed an Indigenous employment strategy.

Funds are distributed based on a formula of student participation, student progress and the number of award courses completed. Higher education providers are required to provide an annual Indigenous Education Statement. This takes the form of a report on their annual expenditure of Indigenous Support Programme funds, including the amount provided to an Indigenous Support Centre, and progress in achieving the goals of the National Aboriginal and Torres Strait Islander Education Policy.

The *Higher Education Disability Support Programme* is described in Box 6.5.

Targeted grant schemes

Most countries have developed publicly-funded grants schemes targeted at under-represented under-graduate students (see Table 6.1). Exceptions are the Flemish Community of Belgium, Finland, Iceland, Norway, Spain and Sweden. A large number of countries run grants schemes targeted at socially-disadvantaged students: Australia, Chile, China, Croatia (including for Roma people and students from the city of Vukovar), the Czech Republic (for Roma people in the non-university sector), Greece, Japan, Korea, Mexico, New Zealand (for Māori and Pasifika people), the Russian Federation (for orphans and students with no parental care), Northern Ireland, Scotland and Wales (for students studying through the medium of Welsh and children who were previously in the care of local authorities). Students with special needs are also provided with targeted grants schemes in some countries: Croatia (students with a disability), the Czech Republic, Estonia (students with a disability and students whose mother tongue is not Estonian), the Netherlands (students with a disability are eligible for an extra year of grants or loans), Poland, Portugal, the Russian Federation (students with a disability; students involved in a radiation disaster) and the United Kingdom. Australia, Chile, Korea and the Russian Federation (including students living in areas with hard climatic conditions) have also developed targeted grants schemes for geographically-disadvantaged students. In Switzerland, a grant scheme is available for the under-represented gender. Finally, in the Netherlands, students from low-income families have access to supplementary grants (in addition to the basic grants described in Chapter 4).

Box 6.1 describes equity programmes in Australia in more detail.

Availability of tertiary education in remote areas impacts on participation levels

A number of studies provide evidence that participation levels in tertiary education are related to the availability of tertiary education provision within the vicinity of the place of residence. Frenette (2006) shows that, in Canada, students living "out of commuting distance" from a university are far less likely to attend university than students living "within commuting distance", the effect being particularly marked for students from lower-income families. Frenette (2003) reaches the same conclusions but further finds that students living near a non-university institution only, are more likely to attend a non-university institution than are those living near both a university and a non-university institution. Andres and Looker (2001), using two longitudinal surveys of Canadian youth, find that in both British Columbia and Nova Scotia, students in rural areas have lower expectations and attainments compared to other students, even when parental background, gender and academic stream are controlled.

James (2001) examines the relatively low tertiary education participation rate of people living in rural or isolated Australia. His results suggest tertiary education participation for people in rural and isolated areas may be affected less by distance from university campuses than by socioeconomic circumstances and the influences of rural social and cultural contexts. Socioeconomic effects are generally more pronounced and pervasive than any effects of location identified by this study.

Research studies conducted in Sweden suggest that distance learning opportunities in remote areas improve the propensity to participate in tertiary education. Dahllöf (2003) studies the relationship between distance-learning centres (under the responsibility of the municipalities and physically detached from a university campus) and the propensity to attend a TEI, and Roos (2003) focuses on providing the profile of the users of distance-

learning services, and how their family commitments and career objectives are combined, and whether they have had good or bad experiences with distance learning. They find that many would not have been able to study at tertiary level without the distance-learning centre, this being particularly the case for women and for students coming from "non-academic" homes.

Countries have adopted a range of strategies to improve the accessibility to tertiary education in remote areas. Box 6.2 provides the example of distance learning and lifelong learning centres in Estonia, Iceland and Switzerland. In China, the Ministry of Education launched in 2001 *the Scheme of Counterpart Support to TEIs in Western Regions*, through which 14 well-known universities such as Peking University or Tsinghua University are required to provide support to 14 universities in western regions including Xinjiang Shi He Zi University and Qinghai University. In responding to the needs of TEIs in western minority regions, key universities provide support focusing on curriculum development, faculty development, improvement of management practices, and improvement of learning and teaching conditions. Measures include staff exchange, academic staff of western regions received in supporting TEIs for post-graduate studies, short-term consulting services, and collaboration in research.

Alternatives types of tertiary provision respond to particular cultural needs

One approach to increase the number of indigenous people attending and completing tertiary education is to create new TEIs, designed and controlled by Indigenous Peoples themselves. Such is the case of the Wānanga in New Zealand, which are Māori based, developed and controlled institutions of tertiary education, grounded in Māori philosophies, stories, culture, language, and history. Other examples include the Batchelor College in Australia, the First Nations University of Canada (among many other indigenous TEIs), *Universidades Interculturales* in Mexico, the Sámi University College in Norway, and the tribal colleges in the United States (see Box 6.3).

Malatest (2004) summarises the literature and concludes that when indigenous students are given control of their own programmes or TEIs, there have been higher rates of success in indigenous enrolment and graduation. He explains that there is strong support for existing indigenous TEIs. He further reveals that factors said to have contributed to these institutions' success at attracting and retaining indigenous students include the high level of indigenous staff and the support of other indigenous students. As documented in Malatest (2004), Barnhardt (1991) identified major themes in indigenous educational institutional goals or practices around the world, which encompass the following: commitment to community; integration of functions; sustained local leadership; participation of Elders; spiritual harmony; use of local languages; traditional ways of knowing; traditional teaching practices; congenial environment; and participatory research.

Box 6.2. Distance learning and lifelong learning centres in Estonia, Iceland and Switzerland

Estonia

In Estonia, the main TEIs now provide courses using distance or e-learning delivery. A particular relevant initiative is the creation, in 2002, of the Estonian e-University Programme, bringing together the State, the business community, the University of Tartu, Tallinn University of Technology and partly publicly funded under the Estonian IT Foundation. This consortium seeks to facilitate e-learning opportunities for Estonians, including those in more remote areas. A complementary initiative is the opening of 10 regional learning centres across the country, typically based at university campuses, vocational schools or public libraries. Those learning centres serve as study centres and provide teleconferencing facilities. The e-University Programme and the regional centres have engaged in collaboration to facilitate access to quality education in remote areas.

For more information: *www.euser-eu.org/ShowCase.asp?CaseTitleID=781&CaseID=1684&MenuID=110*
www.e-uni.ee/Minerva/2.2.2.html

Iceland

In Iceland, all seven TEIs provide distance learning programmes and courses. Student enrolments in distance education nearly tripled between 2000 and 2003 and represented approximately 17% of all enrolments in Iceland's system of tertiary education in 2004 with the University of Education and the University of Akureyri with the largest share. In 2004, over half of the students at the University of Education were enrolled in distance learning programmes (35% for the University of Akureyri). In 1978 this university was the first institution to establish distance learning programmes, and in 1993 it launched a distance learning Bachelors degree programme for primary school teachers. This was a response to the shortage of teachers in remote areas of the country.

Whilst both these two universities are dual mode establishments, combining both on-site teaching with distance education, the task they fulfil differs considerably. For the University of Education, distance teaching follows a centre-periphery model, with national standards being projected into the region. For the University of Akureyri, however, distance teaching works from periphery to centre within the region and is tied in with eight Lifelong Learning Centres. Each of these centres is located in small communities, distributed across the country, and whilst independent of the University, is linked to it via Internet and video conferencing facilities.

The government's rural development plan is to strengthen the distance learning and continuous education opportunities. High expectations are attached to the work of education/lifelong learning centres as an addition to the Icelandic educational system, *e.g.* to ensure equal rights to education, regardless of where people live, and to militate against population drain from the regions.

For more information: *http://starfsfolk.khi.is/salvor/basics/khi-dised.htm*
http://english.unak.is/?d=4&m=page&f=viewPage&id=196

Swizerland: The Swiss Virtual Campus

The Swiss Virtual Campus (SVC) promotes learning over the Internet at the Swiss Institutions of Higher Education (Universities, Universities of Applied Sciences, Swiss Federal Institutes of Technology). Students are no longer tied to a programme of lectures with set times and locations; they can acquire knowledge whenever and wherever they choose. Subject specialists as well as experts on education and didactic methods ensure high course quality outside the framework of conventional lectures. Multilingual modules and cooperation between institutions of higher education take account of the special conditions in Switzerland. Competence Centres are set up to support project development. At the moment there are 82 courses online, covering a wide spectrum of disciplines.

SVC is not aiming to transfer entire courses of study to the Internet. On the contrary, compulsory online courses are intended to supplement existing lectures and training programmes. In general, each project should develop a course that can be followed via Internet that includes teaching material, exercises, seminars or practical work as well as online or direct aids and assessment (self-assessment and examinations). The courses developed should be part of a curriculum of the participating universities. SVC courses are then mostly developed from existing courses, by the same professors which are teaching presence courses and in the same organisational context.

At the political and organisational level the programme is also firmly rooted into the existing university structures, since it is managed by the Swiss University Conference and the involved universities are expected to co-finance the projects and to take the responsibility for use and maintenance of the courses.

For more information: *www.virtualcampus.ch*; Lepori and Rezzonico (2003).

Box 6.3. Indigenous TEIs in Australia, Mexico, Norway and New Zealand

Australia: Batchelor Institute of Indigenous Tertiary Education

Established on 1 July 1999 by the Batchelor Institute of Indigenous Tertiary Education Act 1999, the Institute is controlled and run by Indigenous Australians and specialists in working with Aboriginal and Torres Strait Islander students from across Australia, and especially remote communities, to develop an Indigenous approach to mainstream disciplines and careers. The Institute offers higher education and vocational education and training courses, ranging from apprenticeships and certificates to doctorates, and providing pathways in a number of fields critical for Indigenous Australians. There are over 3 000 enrolled students from all parts of the country.

The Institute's teaching and research activities affirm Indigenous Australians' aspirations for self-determination and employment; and are underpinned by a "both ways" philosophy which enables exploitation of Indigenous traditions of knowledge and Western academic disciplinary positions in cross-cultural contexts.
For more information: *www.batchelor.edu.au*

Mexico: *Universidades Interculturales*

Mexico, as of 2004, created the *Universidades Interculturales* (Intercultural Universities) which are grounded on indigenous philosophies, languages and histories (Schmelkes, 2005). They open up new opportunities for exchange between indigenous and non-indigenous communities. As of 2006, five intercultural universities had been created. They are located in regions with high densities of indigenous population, although open to students of any origin. The number of students in total was 1 281 during the 2004-05 academic year, equivalent to about 0.05% of total tertiary education enrolment in the country. The main areas of study offered include indigenous languages and culture, alternative tourism, sustainable development, intercultural communication, law and agroecology.

Intercultural universities grant a means to respond to the needs and aspirations of indigenous communities, influential to the ongoing development of all Mexicans. They are seen as a pathway to empowerment, less dependency, and more active engagement and participation of indigenous populations in planning, policy and research. They are part of a strategy for sustainable development, with a focus on building human and social capacity in areas such as education and research. This is seen as a major development in responding to the labour market needs of indigenous populations. For more information: *www.redui.org.mx*

Norway: Sámi University College

Established in 1989 in Guovdageaidnu/Kautokeino in Finnmark county (north of Finnish and Swedish Lapland), Sámi University College (SUC) (*Sámi allaskuvla* in Sámi language and *Samisk høgskole* in Norwegian) is an integral part of the Norwegian tertiary education system and its mission is to serve the needs of the Sámi population in terms of higher education and research in Sámi language and Sámi language development, pre-school and general teacher education, journalism and sustainable development, including reindeer studies. Most programmes are at the Bachelor's level. Courses in Sámi literature and traditional crafts (*Duodji*) are also provided. The main language of teaching, research and administration is Sámi. The Nordic Sámi Institute (NSI) is, as of 2005, part of SUC. Its mission is, through research, to strengthen and develop Sámi language, culture and social life seen in a pan-Sámi perspective.

SUC had 57 staff and 173 students in 2007. It provides full and part time studies, tailor-made courses and other flexible provision to suit the needs of lifelong learning. Although most of the students are Norwegian, there are also students from Finland, Sweden and Russia (the total Sámi population is estimated at around 70 000, with 40 000 in Norway, 20 000 in Sweden, 7 500 in Finland and 2 000 in Russia). Several other Norwegian TEIs offer study programmes aimed at the Sámi population. For more information: *www.samiskhs.no*

New Zealand*:* Wānanga

Wānanga are Māori centres of tertiary learning, which acquired their status as TEIs in the last decade. They offer study at all levels, from foundation education to post-graduate study and research where *ahuatanga Māori* (Māori tradition) and *tikanga Māori* (Māori custom) are an integral part of the programme.

There is a growing Māori education stream with semi-independent status. At the pre-school level, there are *kohanga reo* and there are also *kura kaupapa Māori*, schools that teach in *te reo Māori* and that teach with Māori pedagogy as its base. This has led to the creation of Wānanga, indigenous TEIs. There are three Wānanga recognised as public TEIs, while a number of iwi (tribal) groups have established Private Training Establishments. The three Wānanga had 32 000 full-time equivalent students (70 000 students in total) in 2004, about 14% of total enrolments in tertiary education.

Wānanga have made a substantial contribution to the advancement of *Mātauranga Māori* (Māori knowledge). They respond to a particular need in New Zealand society and are a means to provide aspirations to indigenous communities in harmony with their culture.
For more information: *www.twoa.ac.nz ; www.wananga.ac.nz ; www.twor.ac.nz*

Making information about the benefits (and costs) of tertiary education available to disadvantaged students is likely to make a difference

As a result of a given disadvantage, some students might be ill-informed about the benefits and costs of tertiary education (Barr, 2004). This is particularly the case for those students who live in an environment which does not stimulate their participation in educational activities, as when the educational background of parents is weak. In these conditions, students might underestimate the net benefits of tertiary education and decide not to undertake tertiary studies. Usher (2006), in a review of the literature on grants and their impact on access to education, argues that in North America, those from lower socio-economic groups have shorter-term decision-making horizons and hence, do not give appropriate weight to medium term returns. Leach and Zepke (2005) summarise the literature on student decision-making by prospective tertiary students. They conclude that two key factors within schools – teachers and career guidance staff – affect decisions and predispositions for tertiary education, particularly for non-traditional students. They stress that a number of studies has identified subject teachers as "positive influencers" for low socio-economic status students. Moreover, they provide evidence on the positive role of career guidance in providing information and advice which makes a difference in the decision on whether or not to enrol in tertiary education. Models of career guidance are suggested by a recent OECD review (OECD, 2004b).

In England, the *Aimhigher programme* jointly organised by the Department for Innovation, Universities and Skills, the Higher Education Funding Council for England and the Skills Council (*www.aimhigher.ac.uk*) aims to widen participation in tertiary education and to increase the number of young people who have the abilities and aspirations to benefit from it. It provides materials to inform young people about the benefits and opportunities of higher education, especially young people from families who have no tradition of higher education. The representative bodies for universities and colleges, and the Funding Bodies, have also established a complementary Web site, HERO (*www.hero.ac.uk*), which provides full details of higher education learning and research opportunities at universities and colleges throughout the United Kingdom.

Facilitating transfers between different types of TEIs within tertiary systems is likely to enhance equity

Transfers between different types of TEIs, and in particular between vocationally-oriented TEIs and academic TEIs, have the potential to enhance equity in the system. More disadvantaged students are more likely to attend vocational tracks of secondary education and, if they access tertiary education, to attend vocationally-oriented TEIs. If transfers were enhanced, then these students might have a better chance of earning higher-level degrees, which provide access to better and higher-earning occupations. In addition, more disadvantaged students are more likely to enter lower-status TEIs compared to those from better-off families, and increased options for transfer would help them move to higher-status TEIs. Formal arrangements for inter-institutional transfer across tertiary education sectors have the potential to promote equality of opportunity by allowing for a flow of students likely to help them achieve their educational and occupational goals (see also Chapter 3, Section 3.5.3).

Inter-institutional transfers across tertiary education sectors tend to be limited in most systems. For example, Curtis (2006) shows that in Australia transfer between the vocational education and training (VET) tertiary sector and the higher education system is relatively modest at around 10% of all enrolments in the two sectors. Transfers between

courses within the sectors are three times as high as movement between the sectors. In addition, transfer from the VET sector to the higher education system is shown to be approximately 50% greater than the transfer from higher education to VET. Field (2004) analysing sector articulation and credit transfer in Scottish tertiary education, reveals that few who achieve a tertiary qualification in further education subsequently progress to degree level study and those who do progress to a degree course mainly enter lower-status TEIs.

Andres (2001) analyses transfer arrangements from community college to university in British Columbia using a sample of students who accomplished the transfer. The findings reveal that although the majority of students in this study support transfer as a viable and even preferable route to university degree completion, they identify the following obstacles to a successful transfer: difficulty gaining access to useful information; problems understanding transfer policies, practices, and procedures; and declines in grades following transfer to university.

Targeted support within TEIs during the course of studies can contribute to improve equity of outcomes

The growing proportion of disadvantaged students enrolled in tertiary education makes the ongoing issue of their retention and programme completion an increasingly important concern in tertiary education. Support targetted at disadvantaged students within TEIs during the course of studies (*e.g.* induction programmes, remedial education, tutoring services) might be effective in improving completion rates of disadvantaged students. Presently, however, there is little evidence about the effects of institutions' support programmes on student outcomes. The difficulty lies in the fact that activities labelled as "institutional support programmes" are very diverse and the outcomes are highly dependent on the particular circumstances in which those programmes are developed.

Some studies evaluate particular initiatives in individual TEIs. Guthrie and Guthrie (1988) evaluate California State University's *Summer Bridge* and *Intensive Learning Experience* (ILE) programmes, which are remedial/developmental programmes providing basic skills instruction, orientation, and advice to entering students at risk of dropping out. The Summer Bridge programme is a 3- to 6-week residential programme for incoming students. The programme provides instruction in English and mathematics, academic advising, counselling, and orientation to the university experience. The ILE programme offers remediation in English and mathematics via a full academic year of writing and/or mathematics in small classes, along with academic advising. The study concludes that: both programmes enrolled high percentages of under-represented minorities and underprepared students; retention rates for Summer Bridge students were higher than those for students in the overall institution; and retention of ILE students varied widely by campus programme and ethnic group.

Ackermann (1990) assessed the effects of the *Freshman Summer Program/Transfer Summer Program* (FSP/TSP) on the academic, personal, and social development of under-represented and low-income students during their first year at the University of California, Los Angeles. Data from 265 students suggest that summer bridge programmes can help facilitate students' transition and adjustment to university life and improve their academic performance and persistence rates. The author further concludes that FSP/TSP proved that a strong curricular component can help teach students how to participate and succeed in an academic environment. There was also evidence that the programmes

helped under-represented and low-income students adjust and adapt to university life and helped them become members of the campus community. Ramirez (1997) looked at the impact of supplemental instruction on students in a large urban university. The study indicates that supplemental instruction has a substantial impact on performance and retention for special-admit students and under-represented/under-prepared students. Opp (2002) uses regression analysis to identify factors which improve retention rates of a particular disadvantaged group (students of colour) in two-year community colleges in the United States. He concludes that initiatives that enhance faculty-student and peer interactions lead to greater completion rates for students of colour.

Supporting programmes specifically targeted at under-represented groups during the course of studies (such as the monitoring of study progress and tutoring programmes) are available in public TEIs of most countries shown in Table 6.1. Countries where such programmes are not available are the Czech Republic, Finland, Greece, Iceland and Spain. In some instances where these programmes exist, they are imposed on public TEIs by the national framework. This is the case for students with a disability in China, Korea and Sweden. In Mexico, TEIs are under the obligation of offering special tutoring programmes to all recipients of a means-tested grant.

Supporting programmes during the course of studies targeted at under-represented groups are at the discretion of TEIs in some countries (Table 6.1). In some instances, such discretion is generally used by TEIs. Such is the case of Australia, the Flemish Community of Belgium, Estonia (support to students who are not proficient in the Estonian language), the Netherlands, New Zealand (may include, for instance, Māori, Pasifika, students with disabilities, migrants and refugees, students from lower socio-economic backgrounds), Poland (for students with disabilities), the Russian Federation (in the case of orphans, students without parental care, and students with a disability); and the United Kingdom (except Northern Ireland). Such discretion is rarely used in Chile (in relation to indigenous groups), Croatia (in relation to students with disabilities), Estonia (in relation to students with disabilities), Korea (for indigenous groups), Norway (extra language training and monitoring aimed at immigrant students) and Portugal.

6.6.7 Selection procedures

Country approaches to entrance procedures into tertiary education

Table 6.2 illustrates some features of student entrance procedures in participating countries. More specifically, it describes what entity takes responsibility for determining: the number of students entering TEIs; the minimum admission requirements; and student selection criteria when there are more applicants than places in a given degree or programme.

There is great variety of approaches regarding what entity sets the number of entering students

The entity which decides how many students can enter individual public TEIs differs across participating countries (see Table 6.2). In about half of the countries, public TEIs determine the number of entering students but subject to guidelines or limitations imposed by government authorities. This is the case when the government: limits the number of places being publicly financed (Australia, Croatia, Iceland, Korea, Mexico, Portugal, Russian Federation and Sweden); defines the target number of degrees for a

3-year period (universities in Finland); requires approval (national universities and public university corporations in Japan; and Spain); or limits the growth of government-financed places (New Zealand). In a few cases – China, the Czech Republic (following negotiation with TEIs), the polytechnic sector in Finland (following negotiation with TEIs), Greece, for public universities in Japan (which excludes national universities and public university corporations) and Switzerland – the number of students entering public TEIs is defined by government authorities (at the local level in Japan). In another group of countries, TEIs determine the number of entering students (typically with the exception of some programmes such as medicine or dentistry): Flemish Community of Belgium, Chile, Estonia, the Netherlands, Norway and Poland. In the United Kingdom, publicly-subsidised private TEIs decide on the number of places subject to the limited number of government-financed places (in Wales, the Welsh Assembly government decides on the number of students entering TEIs).

Admission requirements are established by government authorities in most countries

In most countries, criteria established by government authorities define the minimum requirements a student needs to meet to enrol in tertiary education, both in the public and private sectors. In half of the countries shown in Table 6.2, government authorities exclusively determine minimum admission requirements to enter public TEIs. In the New Zealand (for universities only) and Portugal, public TEIs are authorised to define supplementary criteria. Public TEIs have more discretion over the definition of minimum admission requirements in two other groups of countries: *(i)* in Croatia, Iceland, Japan, Mexico, Poland and Switzerland these requirements are defined by TEIs but in line with national criteria; and *(ii)* in Australia, Chile and New Zealand (for institutions other than universities), public TEIs exclusively determine minimum admission requirements. The picture changes slightly for private TEIs. In eight of 22 countries, admission requirements are still exclusively determined by government authorities. Private TEIs establish their own requirements but in line with national admission criteria in Croatia, Iceland, Japan, Mexico, Poland, Portugal and Switzerland. Private TEIs have full discretion to define admission requirements in Australia, the Flemish Community of Belgium (for private TEIs not under the public responsibility), Chile (but private TEIs which belong to the Council of Rectors set the same admission criteria as public TEIs), the Netherlands, New Zealand, Sweden (but, in most cases, TEIs follow national guidelines) and the United Kingdom.

In most countries, TEIs have a considerable degree of discretion over student selection criteria

As regards student selection criteria for admission decisions when there are more applicants than places available in a given degree or programme, TEIs have a considerable degree of discretion in most countries shown in Table 6.2. For public TEIs, only in Greece, Norway, Spain and Sweden are TEIs required to strictly follow rules defined exclusively by government authorities. In Portugal, public TEIs are allowed to develop criteria supplementary to those defined by government authorities. In about a third of the remaining countries, public TEIs define their selection criteria exclusively (Australia, Croatia, Czech Republic, Estonia, Finland and Japan); in the remaining two-thirds, TEIs determine their selection criteria but in line with national criteria (Chile, China, Iceland, Korea, Mexico, the Netherlands, New Zealand, Poland, the Russian Federation and Switzerland). As regards private TEIs, the degree of discretion over

selection criteria is much greater. In most countries, private TEIs exclusively determine their selection criteria. Exceptions exist when private TEIs are to define their selection criteria in line with national criteria (China, Korea, New Zealand, Poland, Portugal and Switzerland) or when they need to follow criteria established by government authorities to which they can supplement their own criteria (in certain fields of study in Norway).

Issues with entrance procedures

Relying exclusively on academic results raises equity issues

Merit is never pure: as illustrated earlier, in every school system the opportunity to acquire the highest grades is not equally distributed. "Merit" at the time of entrance into tertiary education is not only the result of intellectual ability and study effort but also the consequence, for instance, of the access to good schools and stimulating teachers, the benefit of a supporting family, or the affordability of private tutoring. As a result, the well established influence of the socio-economic background on school achievement raises equity concerns about entrance/selection procedures into tertiary education which are exclusively based on academic results such as when selection is undertaken through high-stakes national examination procedures or on the basis of secondary school grades.

A good illustration of this is the widespread use of private tutoring in some countries to prepare students for entrance examinations into tertiary education, which is a means through which family income shapes access to tertiary education. In Korea, with the exception of some TEIs, the College Scholastic Aptitude Test (or CSAT), a national-level entrance examination into tertiary education, apparently counts for 70% of the overall selection for colleges and universities, with the student's high school record contributing only 10%. The competition to get into the "best" universities is fierce, and secondary school students typically work an additional four to six hours per day in tutoring schools (if their parents can afford them) to improve their score on the CSAT. It is apparently not unusual for middle-income parents to spend 30% of their earnings on tutoring schools for high school students. Choi *et al.* (2003) found that 56% of secondary school students and 19% of vocational students had private tutoring in 2003, spending an annual sum equivalent to 17% of the average annual salary. The same phenomenon is visible in the Russian Federation. The proportion of students from highly educated families taking private tutoring in schools is considerably greater (55.4%) than that for students from poorly educated families (30.1%) (Voznesenskaya *et al.*, 2004).

National-level entrance examinations have some positive aspects

Some countries have introduced either a uniform secondary school-leaving examination or a uniform entrance examination across the country as the basis for admission to tertiary education. The major advantage of this approach is to provide clear expectations about the standards required for entry and avoid situations of favouritism either at the secondary school given the subjectivity of secondary school grades or at the tertiary institution at the moment of the selection.

Table 6.2. Student entrance procedures, under-graduate programmes, 2007

	Who decides the number of students entering individual public TEIs?	Who decides on the minimum admission requirements to		Who decides on student selection procedures in…	
		… public TEIs?	… private TEIs?	… public TEIs?	… private TEIs?
Australia[1]	TEIs, but subject to government limitations (limited number of government-financed places)	TEIs	TEIs	TEIs	TEIs
Belgium (Flemish Community)	*a*[2]	Government authorities	TEIs (private TEIs that are not under public responsibility)	Medicine: Government authorities; Fine arts, performing arts and music: TEIs; Other: no selection	TEIs (private TEIs that are not under public responsibility)
Chile	TEIs in all programmes	TEIs	TEIs[3]	TEIs (according to national entrance examination score and high school grades)[4]	TEIs
China	Government authorities	Government authorities	Government authorities	TEIs in accordance with national criteria	TEIs in accordance with national criteria
Croatia	TEIs, but subject to government limitations (limited number of government-financed places)	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs	TEIs
Czech Republic	Government authorities[5]	Government authorities	Government authorities	TEIs	TEIs
Estonia	TEIs in all programmes	Government authorities	Government authorities	TEIs	TEIs
Finland	Polytechnics: Government authorities (after negotiations between the Ministry and institutions); Universities: TEIs, but subject to government limitations (target number of degrees for a 3-year period)	Government authorities	Government authorities	TEIs	TEIs
Greece	Government authorities	Government authorities	*a*	Government authorities	*a*
Iceland	TEIs, but subject to government limitations (limited number of government-financed places)	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs
Japan	National universities, public university corporations and private institutions: TEIs, but subject to government limitations (national government approval required); Public universities: Local governments, but subject to national government limitations (national government approval required)	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs	TEIs
Korea	TEIs, but subject to government guidelines or limitations	Government authorities	Government authorities	TEIs, but subject to government guidelines	TEIs, but subject to government guidelines
Mexico	TEIs, but subject to government guidelines or limitations	TEIs in accordance with national criteria (mandatory national entrance examination)	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs
Netherlands[6]	TEIs in all programmes (except some programmes such as medicine)	Government authorities	Government authorities	Programmes with numerus clausus: TEIs in accordance with national criteria; Other: No selection	Programmes with numerus clausus: TEIs in accordance with national criteria; Other: No selection
New Zealand	TEIs, but subject to government limitations (limited levels of growth each year in number of government-financed places)	Universities: Government authorities with supplementary requirements defined by TEI; Other: TEIs	TEIs	TEIs in accordance with national criteria	TEIs in accordance with national criteria
Norway	TEIs in all programmes (except some programmes in the health sector- *e.g.* nursing, medicine, physiotherapy)	Government authorities	Government authorities	Government authorities	Government authorities with supplementary criteria defined by TEI; TEIs (depending on field of study)
Poland	TEIs in most fields/programmes (except programmes in the health sector- *e.g.* medicine, nursing, physiotherapy, public health, dentistry,obstetrics)	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs in accordance with national criteria	TEIs in accordance with national criteria
Portugal	TEIs, but subject to government limitations (limited number of government-financed places)	Government authorities with supplementary requirements defined by TEI	TEIs in accordance with national regulations	Government authorities with supplementary criteria defined by TEI	TEIs in accordance with national criteria
Russian Federation	TEIs, but subject to government limitations (limited number of government-subsidised places)	Government authorities	Government authorities	TEIs in accordance with national criteria	TEIs
Spain[7]	TEIs, but subject to government guidelines or limitations (government approval required)	Government authorities	Government authorities	Government authorities	TEIs
Sweden	TEIs, but subject to government limitations (limited number of government-financed places)	Government authorities (TEIs in some cases)	TEIs (TEIs follow national guidelines in most cases)	Government authorities (only in exceptional cases may TEIs deviate from national selection procedures)	TEIs (in most cases, TEIs follow national selection procedures)
Switzerland	Government authorities	Government authorities (TEIs in accordance with national criteria)	Government authorities (TEIs in accordance with national criteria)	Government authorities (TEIs in accordance with national criteria)	Government authorities (TEIs in accordance with national criteria)
United Kingdom[8]	*a*	*a*	TEIs	*a*	TEIs

Definitions: This table refers to procedures to admit students into programmes at ISCED level 5 in public and private tertiary education institutions.
Students entering refers to students not enrolled in the same degree in the concerned TEIs in the previous academic year.
Minimum admission requirements refers to the requirements a student needs to meet in order to enrol in tertiary education. These typically include elements such as a school-leaving certificate, a national-level school-leaving examination or an institutional-level entrance examination.
Student selection procedures refers to the criteria used to decide which students are admitted in a given degree/programme when there are more applicants than places available in that degree/programme.

Notes: *a* : Information not applicable because the category does not apply; *TEI*: Tertiary education institution
1. Information concerns universities only and does not account for the non-university sector.
2. There are no limitations regarding the number of students entering individual TEIs.
3. Private TEIs that are part of the Council of Rectors set the same requirements as public TEIs. Other private TEIs set their own admission requirements, but some use the national entrance examination as well.
4. The Council of Rectors which includes 25 TEIs sets the minimum score level at the national entrance examination.
5. There is a negotiation between the Ministry and higher education institutions on the annual increase of students.
6. Issues covered in this table refer to publicly-subsidised TEIs. No information is provided for independent private institutions.
7. Issues covered in this table are the responsibility of regional authorities and concern universities only. Vocationally-oriented institutions are not taken into account.
8. Issues covered in this table refer to publicly-subsidised private TEIs. All higher education institutions in the United Kingdom are legally private independent bodies with a charitable status, most of which are publicly funded. Publicly-subsidised private TEIs are able to decide on the numbers of places subject to government limitations (limited number of government-financed places). In Wales, the Welsh Assembly Government decides on the number of students entering TEIs and the minimum admission requirements.

Source: Derived from information supplied by countries participating in the project. The table should be interpreted as providing broad indications only, and not strict comparability across countries.

Institutional say in student selection is desirable but involves some complexity

Institutions will actively seek out the best possible students. A more direct interaction through personal interviews and visits to TEIs by candidates is likely to improve the match between applicants and institutions' profiles. If TEIs have greater control over their own admissions policies, then they might develop specialties that would give prospective students more options from which to choose (Box 6.4 provides the example of practices in Croatia). However, having TEIs play a non-regulated role in student selection might involve some complexity; for instance, there is the possibility of favouritism in student selection or the use of non-desirable selection criteria such as ability to pay.

Box 6.4. Institutional say in selection procedures in Croatia

In Croatia, TEIs themselves determine the criteria for student selection. Institutions establish entry criteria, which include not only the secondary school certificate, but also the entrance examination and a minimum number of points for entry that must be achieved by the candidate at the entrance examination. Institutions also establish additional criteria for candidate selection such as an additional number of points for knowledge of specific subjects attained during secondary school, for successes at national and international competitions of academics or sports, for children of Croatian citizens abroad, or for children of war veterans. The list of additional criteria depends on the entry policy of each TEI in the system.

Alternative entry arrangements are potentially instrumental in assisting equity objectives in tertiary education

Admission policies are increasingly being considered as an instrument to assist equity objectives in tertiary education. There is a trend from the priority given to "inherited merit" in the admission process through more commitment to formal equality, towards the use of alternative entry arrangements, including affirmative action for selected under-represented groups (Clancy and Goastellec, 2007). Some countries have now introduced alternative pathways into tertiary education with the objective of increasing the diversity of the student population. For instance, in Norway, the *Competence Reform* of the late 1990s permits the admission to tertiary education to individuals aged 25 and above on the basis of a person's formal, non-formal and informal training. In Sweden, students can also enter tertiary education with no secondary-school leaving certificate but through results in the Swedish Scholastic Assessment Test.[10]

A diverse range of approaches exist across countries in relation to special selection provisions in public TEIs which seek to improve the participation of some groups of under-represented students. In about half of the countries shown in Table 6.1, the development of these special provisions is left at the discretion of the public TEI. In a number of countries such discretion is generally used. This is the case of Australia (for students from low socio-economic backgrounds; students from regional and remote areas; students with a disability; students from non-English speaking backgrounds; and indigenous Australian students); China (for indigenous groups and students with a disability); Chile, Croatia and Estonia (for students with a disability); the Netherlands (for immigrant populations); Korea and Wales. In other countries TEIs rarely use their discretion to develop special selection provisions. Such is the case of Chile (for indigenous groups); Japan (*e.g.* for indigenous groups, students with a disability, descendants from people repatriated from China); Mexico; New Zealand (may include

10. For this particular route, among under-represented groups, the evidence points to enhanced opportunities essentially for mature students (Berggren, 2007).

Māori and Pasifika people and other factors relating to disadvantage); Portugal; Spain and Scotland. In a small number of countries, special selection provisions for under-represented groups are imposed on public TEIs. This is the case in Croatia (for Roma people), Greece, Norway (for under-represented gender in some fields of study), the Russian Federation (in the case of orphans, students without parental care aged up to 23, students with a disability, students aged up to 20 with one disabled parent), and Sweden (under-represented gender). Finally, in the Flemish Community of Belgium, the Czech Republic, Finland, Iceland, Poland, Switzerland, England and Northern Ireland, no special selection provisions exist in public TEIs to improve the participation of under-represented groups.

Another entrance arrangement in place in some countries is affirmative action which refers to a positive discrimination policy intended to improve the access to tertiary education of under-represented groups, and whose motivation is to redress the effects of past unequal educational opportunities. This is commonly achieved through targeted recruitment programmes, by "preferential treatment" given to applicants from an under-represented group and in some cases through the use of quotas. China and Spain are among the countries which have affirmative action policies in place. In China, the government provides more funded places in provinces and autonomous regions in western areas that are heavily populated by ethnic minorities so as to ensure their growth rate is higher than the national average level. In the process of admission, preferential policies adopted include admitting minority students under lower cut off scores and giving preference to minority students when candidates have similar admission scores. In Spain, autonomous regions must reserve a certain percentage of places on all courses leading to official university degrees for the following student groups:

- Students over 25 years of age: 1% to 3% of the places on all courses to obtain official university qualifications.
- Students who have completed a higher vocational education course: 7% to 30% of the places, depending on the degree course.
- Students with an officially accredited disability rating of at least 33%: 3% of the available places.

Fischer and Massey (2007) use the National Longitudinal Survey of Freshmen (NLSF) to analyse the effects of affirmative action on tertiary education outcomes for the 1999 cohort of first-year students in 28 selective colleges and universities in the United States. They test the validity of two charges levelled by critics of affirmative action: that it undermines minority performance by placing academically unprepared students into competitive schools without the required skills and abilities and that it stigmatises all minorities as academically challenged and intellectually weak to produce added psychological pressure that undermines academic performance. They find no evidence to sustain the first hypothesis. If anything, individual students with entrance scores below the institutional average do better than other students, other things equal. They do, however, find evidence consistent with the second hypothesis, although the effect is not particularly strong compared with other determinants of academic success.

Broader selection criteria might reduce inequalities of access

Basing admissions on a wide variety of entrance criteria, rather than relying so heavily on single measures such as results on school-leaving or university entrance examinations might reduce inequalities of access (*e.g.* by reducing the impact of

tutoring). For example, admission processes could consider: the variety of experiences of students during secondary schools, including their extra-curricular activities; non-academic accomplishments; several exams measuring different aspects of competence in place of a single exam score – consistent with the idea that multiple exams would be more reliable than a single exam; or a variety of factors like interviews, essays and recommendations. There might be several advantages including greater validity and reliability of entrance decisions as well as greater equity as the influence of socio-economic background on academic achievement might be less prevalent. Greater weight is given to characteristics which are harder to measure – enthusiasm, commitment and fitness to specific programmes – but which may be better predictors of success.

6.6.8 Factors impacting on the participation of students with disabilities

Since the early 1990s, most OECD countries have adopted non-discrimination legislation and human rights codes of practice requiring TEIs to ensure physical accessibility for students with disabilities and to give them the same opportunities in terms of access, treatment and outcomes as those provided to other students. This, in many cases, has translated into the need for TEIs to include provision for students with disabilities into their strategic plans and holding them accountable for any form of discrimination.

Policies targeted at students with disabilities have great impact on participation levels

At the policy level, since access to tertiary education generally depends on qualifications and skills acquired at upper secondary level, participation of students with disabilities in tertiary education depends on inclusion policies that ensure access to the general education curriculum. For example, special schools rarely enable access to grades reflecting high academic achievement and countries with developed special school systems or special class systems tend therefore to put students with disabilities at a disadvantage. This approach might explain why in Germany in 2000, of those students in tertiary education reporting a disability, most have a chronic illness (81%) while very few report an impairment (2%) (OECD, 2003).

Participation in tertiary education by students with disabilities is facilitated by policies which give TEIs responsibility over meeting individuals' educational needs. Countries having adopted this perspective such as Canada, the United Kingdom and the United States expect the TEIs to develop awareness of the variety of needs of students with disabilities and to take initiative in developing strategies to meet them. Tertiary enrolment rates of students with disabilities in these countries are generally higher than those in countries with a medical-based approach to disability such as France, Germany or Switzerland. In Switzerland, 2.2% of students enrolled in tertiary education reported a disability in 2003 (Hollenweger *et al.*, 2005) while in the United States 10.4% of students did so (NCES, 2005).

Participation depends also on modes of funding that empower students instead of solely aiding them and that encourage TEIs to create a supportive educational environment for all students. The support given to students is more cost-effective when modes of funding address individual needs to achieve successful participation instead of being limited to address incapacities due to impairment or an injury. Support is often more effective if initiatives include, for example, adaptability of curricula and promote the overall engagement of students with disabilities. The commitment of TEIs seems to

be stronger in countries, such as the United Kingdom, where ring fenced funding encourages TEIs to continuously improve their level of accessibility and raise attainment of students with disabilities. This funding approach takes accessibility as a continuous process encompassing physical, pedagogical and social dimensions in need of permanent improvement.

Specially-designed institutional strategies are an important vehicle to ensure the success of students with disabilities in tertiary education

At the institutional level, participation is facilitated by the existence of an office in charge of assisting students with disabilities, including with admission and accommodation issues, as part of a holistic educational approach to support students with disabilities. These services are instrumental in improving the transition between secondary and tertiary education and in providing students with advice on financial and curriculum resources. They may also assist students in overcoming their reluctance to identify themselves as disabled for fear of stigmatisation or labelling.

Participation depends on admission and support strategies of individual TEIs. Those TEIs that have incorporated provisions for students with disabilities into their institutional policy are more likely to be effective in assisting students with disabilities than those TEIs which lack an explicit policy. More successful TEIs also rely on specialist staff with appropriate qualifications and ensure that awareness of special needs for students with disabilities encompass the whole range of staff members.

Participation is also contingent on transition policies and strategies to improve the move between secondary and tertiary education, progress within tertiary education as well as employment opportunities following graduation. The idea is to account for future prospects with regard to achievement, employment as well as to inclusion into society when considering individual transition plans. Holistic approaches include building bridges between secondary education and tertiary education and articulating employment, health and education issues. This entails cooperation with secondary or vocational TEIs as well as with employers, families and the whole community.

Further, students may also benefit from the access to human and technical resources in TEIs. In terms of physical accessibility, these may be accessible classrooms, adapted transportation to and from the institution and on campus. In terms of accessing the curriculum and educational achievement, additional resources may include alternative communication possibilities (sign/oral interpreters and assistants) and formats (enlarged readings, Braille materials), software or hardware, personal assistance (tutors, note-taking reader, and personal attendant), taped lectures, or examination accommodations (extended time, breaks, reader, modified response format, alternate schedule, and scribes). Special initiatives to promote the participation of disabled students in Australia and Sweden are described in Box 6.5.

Box 6.5. Special initiatives to promote the participation of disabled students in Australia and Sweden

Australia

Since 2005, disability funding has been consolidated into the *Higher Education Disability Support Programme* (DSP). The programme recognises that, while universities are responsible for meeting the needs of students with disabilities, the provision of support for some students with high cost needs is a significant and growing cost to universities. In 2007, AUD 7 million were allocated under the programme which now comprises three components:

- Additional Support for Students with Disabilities (ASSD) which provides funding towards the cost of educational support services and/or equipment for students with disabilities who have high cost needs;
- Performance-based Disability Support Funding, a formula-driven allocation to encourage providers to implement strategies to attract and support students with disabilities; and
- Funding for the Australian Disability Clearinghouse on Education and Training.

The Regional Disability Liaison Officer (RDLO) initiative, previously funded through the Higher Education Disability Support Programme has been merged with the Disability Coordination Officer programme to form the National Disability Coordination Officer (NDCO) Programme. NDCOs offer information, coordination and referral services for people with a disability who are interested in, or enrolled in, post-school education and training. The new NDCO programme commenced on 1 January 2008.

Sweden

In Sweden, each TEI must use 0.3% of the public funding it gets (except for doctoral studies) to provide support to disabled students (*e.g.* sign language interpretation and help with taking notes). The State contributes additional funding for expenses not covered by the ear-marked funds. In 2004 the cost of this support was almost SEK 67 million, of which around 70% went to cover the costs of sign language interpretation. The TEIs employ staff to coordinate measures to benefit disabled students. In 2004, 4 500 students contacted these officials and of this number, 3 500 were granted compensatory support. In addition, the Swedish Scholastic Assessment Test has been modified in order to enable candidates with dyslexia and visual impairments to take it.

6.7 Pointers for future policy development

The policy suggestions that follow are drawn from the experiences reported in the Country Background Reports, the analyses of external review teams, and the wider research literature. Not all of the policy implications apply equally to all reviewed countries. In a number of cases many or most of the policy suggestions are already in place, while for other countries they may have less relevance because of different social, economic and educational structures and traditions. The implications also need to be treated cautiously because in some instances there is not a strong enough research base across a sufficient number of countries to be confident about successful implementation. Rather, the discussion attempts to distil potentially useful ideas and lessons from the experiences of countries that have been searching for better ways to achieve equity in tertiary education. However, some common themes are evident in the country reforms now underway, namely that policy intervention is needed at earlier stages of education, targeted actions and selective funding may be necessary, the principle of equal treatment may not always be valid, greater diversity of programme provision may be beneficial, and the broadening of selection criteria and alternative pathways into tertiary education may be required.

Assess the extent and origin of equity issues

A coherent and systematic approach to equity would in the first instance assess where equity problems arise: whether they are related to income constraints faced by families and insufficient student support; whether they are related to inequity of opportunities at the school level; whether they are linked to admissions issues; or whether they are related to other barriers such as the lack of knowledge about the benefits of tertiary education. This requires the systematic collection of data such as the socioeconomic background of the tertiary student population, completion rates by family background, regional flow of students, student's part-time work, or the social and economic conditions of student life. The objective would be for the equity framework to use an empirical performance indicator system to monitor access, participation, retention and success of groups identified as disadvantaged. This would inform the development of appropriate policies to reduce inequalities in tertiary education. More effective student tracking and cohort analyses are instrumental in order to examine the social and economic outcomes of tertiary education.

Making tertiary education more equitable requires policy to intervene much earlier

The main reason why access to tertiary education may be inequitable is that young people from disadvantaged backgrounds do not attain the qualifications needed for entry into tertiary education. This factor is likely to play a greater role in the access to tertiary education than the inability for disadvantaged families to afford tertiary education. This means that, to lessen inequality of access to tertiary education, policy needs to intervene at much earlier educational levels. Interventions on these levels may be more effective than at the time of the transition to tertiary education.

Policies to enhance the efficiency and equity of school systems will without doubt improve access to tertiary education. OECD (2007a) proposes a set of policies to improve the fairness and inclusiveness of schools systems. These include limiting early tracking and academic selection; removing dead ends and preventing dropout in upper secondary education; offering second chances to gain from education; providing systematic help to those who fall behind at school; strengthening the links between school and families; and targeting resources at the students with the greatest needs. In view of the equitable access to tertiary education, other initiatives include interventions that aim to shape the aspirations and expectations of young people whose parents have not themselves completed upper secondary or tertiary education (which can be achieved, as described below, through school career guidance); or grants at upper secondary level for students from disadvantaged backgrounds to prevent dropout.

Strengthen career guidance and counselling services at the school level

Students whose parents have lower levels of education underestimate more often the net benefits of tertiary education. To offset this information gap, career guidance and counselling services in schools should strengthen their role in making poorly informed school children (and their parents) aware of the benefits of tertiary education and in raising their attendance aspirations. In this respect it is important to put in place a network of career guidance services at the school level that is adequately staffed and undertaken by individuals with the appropriate training. It is suggested that career guidance place more emphasis in the transition from upper secondary to tertiary education for students from disadvantaged backgrounds. The models suggested by a recent OECD review of

career guidance can be useful in this respect (OECD, 2004b; OECD and the European Commission, 2004). This can be complemented by exchanges between schools and TEIs whereby school children are mentored by tertiary students, preferably from similar backgrounds, school children are given the possibility of visiting TEIs, and institutions offer bridging programmes in the context of their own comprehensive outreach and access initiatives.

Provide opportunities for tertiary education study from any track in upper secondary school

Policy should seek to ensure that it is possible to go on to some type of tertiary education from any track within upper secondary education. In terms of equity this is important given that disadvantaged groups tend to enrol in larger proportions in vocational tracks of upper secondary education. This calls for particular attention to the links between non-academic tracks in upper secondary school and more vocationally-oriented provision in tertiary education, including bridging education programmes, designed to assist students in developing the skills necessary for success in tertiary education. An expansion of tracks from vocational upper secondary education to tertiary education is also likely to enlarge the participation rates of the currently under-represented groups. It should also be an objective of policy that school children are not tracked away from tertiary education paths at an early age (age ten or twelve), when many have not yet had the time to show the ability or inclination to succeed at the higher level. Inequities in systems where school tracking is common would be lessened if barriers between the vocational and academic tracks within secondary school are lowered and the transition between the two is facilitated.

Strengthen the integration of planning between secondary and tertiary education systems

It is essential that the secondary and tertiary education systems engage with one another to jointly address key equity questions of common concern. Issues such as whether the number and type of study places in tertiary education are adequate to accommodate the diverse demand of school graduates, the extent to which the secondary curricula and assessment provide a good basis for successful tertiary study for all school graduates, and whether institutional diversity within tertiary education is closely aligned with curricular diversity in upper secondary school, are key to make the transition between secondary and tertiary education successful for all students.

Diversify the supply of tertiary education to accommodate a more diverse set of learners

An important element in a policy for equity in tertiary education is the diversification of the supply of programmes at the tertiary level to cater for a much wider diversity of learner backgrounds, experiences, aptitudes and aspirations. The increase in student numbers would go along with a rebalancing in favour of vocationally-oriented programmes. This rebalancing would more effectively provide for two new groups of participants: an expanded cohort of school leavers who have undertaken vocationally-oriented studies; and adult learners who seek to upgrade their qualifications, with recognition of their prior learning through experience. A significant area of growth should be first-cycle professionally-orientated programmes and short-cycle vocationally-orientated certificate and diploma programmes. These steps would make tertiary education more accessible to growing parts of the population while improving the status of tertiary vocational education and training.

Consider alternative types of provision to account for the cultural diversity of the population

The development of TEIs with diverse cultural foundations (*e.g.* indigenous TEIs) is to be encouraged. These TEIs respond to a particular need in societies with cultural minorities and are a means to provide aspirations to those communities in harmony with their culture. A danger to avoid is to develop these TEIs from only one perspective and not valuing the other parts of the country's culture. It is imperative that there is an understanding that bridging between the minority and non-minority communities involves exchange in the two directions. Hence, the policy of opening up these TEIs to all citizens, regardless of cultural background, is to be encouraged. Of course, policies to improve the participation of cultural minorities in tertiary education should encompass attendance in the entire system. In this respect, it is essential to recruit more teachers from underserved minority groups as well as academics from these groups into mainstream tertiary education to raise the tertiary education aspirations within these communities. A further channel for improving the aspirations of cultural minorities is to enhance the partnerships between these communities (and the TEIs run by them) and mainstream TEIs. This is likely to enhance the trust and confidence of cultural minorities in mainstream tertiary education.

Improve the access to tertiary education in remote areas by expanding distance learning and regional learning centres

The strategy to improve the coverage of tertiary education in remote regions could be drawn upon distance education, the establishment of learning centres which can provide remote links to TEIs, and in some cases the establishment of regional campuses of urban-based TEIs with provision more concentrated in programmes requiring more practical work and closely related to local needs. Distance learning is an effective means through which students may access lectures and seminars remotely, and converse with their professors. This approach could be used to allow remote access to all courses which do not require practical work. The regional learning centres are a complementary important point of physical linkage between tertiary education and local communities. They serve as study centres and provide teleconferencing facilities. Another possible policy intervention is to increase student support for those living in remote areas, particularly through dormitory provision, to enable more students to study away from home.

Diversify criteria for admission and give a say to TEIs in entrance procedures

Granting institutions a greater say over student admissions can help achieve a more efficient match between their profile and students' characteristics. This might assist TEIs in building their own identity and develop their specialties. However, given the potential undesired effects of such approach (*e.g.* TEIs selecting on the basis of ability to pay), this is better combined with system level guidelines on entrance procedures in tertiary education. These could establish a number of principles TEIs have to respect regarding student selection such as the weight to be given to national-level entrance examinations and/or grades in upper secondary school or the prohibition of using "ability to pay" as a selection criterion.

In the framework of their autonomy over student admissions, TEIs should be encouraged to base their admissions on a wide variety of entrance criteria, rather than relying heavily on single measures such as results on school-leaving or university

entrance examinations. This is likely to reduce inequalities of access as implied by the impact of family background on prior academic achievement (*e.g.* by reducing the importance of extensive tutoring). For example, admissions might be decided more by the variety of experiences of students during secondary schools, including their extra-curricular activities; by accomplishments other than academic accomplishments; by several exams measuring different aspects of competence in place of a single exam score – consistent with the idea that multiple exams would be more reliable than a single exam; or by a variety of factors like interviews, essays and recommendations.

Consider positive discrimination policies for particular groups whose prior educational disadvantage is well identified

Affirmative action or positive discrimination in institutional admission procedures is to be encouraged for those particular groups whose prior educational disadvantage is well identified. This compensates for the more limited educational opportunities offered to some disadvantaged groups prior to entering tertiary education. This is an instance in which the principle of equal treatment is not necessarily valid and where tertiary education plays a role in redressing the effects of past unequal educational opportunities. Positive discrimination arrangements include targeted recruitment programmes, "preferential treatment" translated into lower "cut-off" admission grades, or the provision of quotas for members of specific under-represented groups.

Consider alternative ways of acquiring eligibility for tertiary education

Completing upper secondary school should not be the sole means to become eligible for tertiary education. Alternative ways of acquiring eligibility for tertiary education could include the accreditation of prior learning and work experience for individuals who do not possess a school-leaving certificate; the possibility of passing an examination to test the individual's aptitude for tertiary study (such as a scholastic assessment test); or "bridging programmes" developed jointly with an adult learning institution. These alternative pathways into tertiary education would provide opportunities for those individuals who, as a result of particular circumstances, missed earlier opportunities to gain access to tertiary level studies.

Improve transfers between different types of TEIs within tertiary education

Improving transfers between different types of TEIs, and in particular between vocationally-oriented TEIs and academic TEIs, has the potential to enhance equity in the system. This is because more disadvantaged students, if they enter tertiary education, are more likely to attend vocationally-oriented TEIs. If transfers were enhanced, then these students might have a better chance of earning higher-level degrees, which provide access to better and higher-earning occupations. Some practices and policies could be instrumental in enhancing transfers between different types of TEIs within tertiary education. These include improving information for students about programmes and transfer possibilities; extensive co-ordination of transfer policies and practices; and the development of a system of course credits valid across the tertiary education system. Evaluation and quality assurance schemes would allow for the comparability of degrees from different TEIs.

Provide incentives for TEIs to widen participation and provide extra support for students from disadvantaged backgrounds

TEIs need to be provided with incentives to widen participation by less represented groups and assist those groups with extra support. A possibility worth considering is the creation of a special financial incentive for TEIs to attract less represented groups. This could be achieved, for instance, through a premium in the student component of the funding formula to particular groups of students such as minorities or students with disabilities. As suggested above, institutions could also engage in "affirmative action" in the selection process, in recognition of the prior educational disadvantage faced by some groups of students. Institutions should also be encouraged to develop comprehensive outreach and access strategies, which can include partnerships with disadvantaged schools, bridging programmes and earmarked places.

Institutions could also develop initiatives to support students from disadvantaged backgrounds in their studies progression. Possibly more emphasis should be given to support studies progression by, for instance, extending tutoring services for students with academic difficulties. This could be complemented with a funding incentive to encourage TEIs to graduate more disadvantaged students by increasing the graduation premium for such students (if funding is partly on the basis of the number of graduates).

The overall strategy might also include adapting the learning environment to account for the diversity of the student body, for instance by adjusting the curriculum and the tuition for the entire student population. Initiatives include the development of multicultural competencies among the entire academic staff, seminars and courses on multicultural pedagogy and the training of tutors with multicultural knowledge and communication skills. Targeted funding streams to support special groups (*e.g.* indigenous populations, language minorities, students with disabilities) could also be part of institutional level initiatives.

Encourage TEIs to be more responsive to the needs of adult learners

TEIs need to be encouraged to be more responsive to the needs of adult learners. This would widen their societal role with the new audiences they can reach. A number of initiatives can improve the provision of tertiary education for more mature students. First, information, advice and guidance about returning to learning and to take a degree should be readily available to mature students. Second, access courses both to prepare older people for a return to study and to prepare them to meet tertiary education entrance requirements could be provided. Third, consideration should be given to introducing alternative entrance requirements for mature students. This could be, for instance, on the basis of acquired competencies (rather than academic qualifications). Fourth, the supply of programmes should be made more flexible to account for the particular circumstances of this group. Enrolment on a part-time basis should be facilitated, allowing part-time students to take their degree over a longer period, and with teaching organised to better suit those who are employed or have caring responsibilities. In addition, the range of programmes offered should be wide enough to cover the needs of mature students who are active in the labour market. Finally, as student support systems reach maturity, access to it should be expanded to include individuals of all ages.

Sustain efforts to improve gender parity at all levels of tertiary education and address gender stereotyping in subject choice

In most countries, female participation in tertiary education has improved significantly but the gender gap remains at post-graduate level. The efforts to improve gender parity at all levels of tertiary education should be sustained. In those countries where gender parity has not been achieved at under-graduate level, steps to promote female participation should include career counselling and information at the school level, along with efforts to develop family-friendly policies and shifts in cultural norms about the roles of women. In some countries, male under representation at tertiary level has not received enough attention so far and needs to become a more prominent policy issue.

Gender stereotyping in subject choice is a problem common to all participating countries. Addressing it is difficult, and takes time. Primarily, work needs to be undertaken in schools to encourage girls to pursue the sciences and boys to pursue the more "caring" professions and studies. In this respect, career guidance and counselling can prove valuable. TEIs can also help, by liaising with schools to encourage both boys and girls to undertake less traditional subjects for their gender. These initiatives can be complemented more widely through media campaigns showing women and men in non-traditional jobs.

Grant special provisions for students with disabilities

Effective targeted support needs to be provided to disabled students. This should include improvements in the accessibility to the buildings, resources for TEIs to provide special support for this group of students (*e.g.* sign language interpretation; help with taking notes; dedicated support offices), special entrance procedures and allowances to assist disabled students to face the costs of attendance. Given the links between disability and health issues, achieving equity also requires policies and strategies that take into account the rhythms that may be imposed by the illness or impairment, that articulate education and health issues and that involve external support as well as the family.

Achieving equity is further complicated due to the fact that many students with disabilities do not consider themselves to be disabled and/or refuse to disclose their disability in order to avoid the risk of stigmatisation. As a consequence, to achieve equity and meet students' needs, TEIs have to develop support strategies that avoid any form of labeling and stigmatisation in order to assist students with disabilities in disclosing their disability and ensuring that they have access to their rights.

Countries could also improve their ability to plan and monitor cost effective inclusion policies by including students with disabilities in the collection of data on students' access to and success in tertiary education. This lack of data limits the ability of policy makers to devise policies targeted at students with disabilities and the ability of TEIs to plan and monitor the educational process, improve its quality and ensure students' access to employment and, more generally, to rights.

Countries should consider a life course perspective taking into account individuals' situation over time. This perspective allows for a resource-based approach looking at the enabling or disabling effect of policies with respect to students' skills, situation and prospects. It incites TEIs to focus on process and learning outcomes and to develop cross sectoral strategies as well as their methods to identify and assess the needs of students with disabilities.

Another strategy is to develop distance learning opportunities. Distance learning is a source of accessibility which allows students with disabilities to follow their courses from home, hospital bed or rehabilitation centre, giving them access opportunities which did not previously exist. It is also an essential pedagogical tool for the continuity of the courses of these students and their success, especially when the evolution of certain pathologies (mental conditions, for example) may require interrupting temporarily their course of study or spreading it over time. It also constitutes a social anchor enabling students with disabilities to pursue their education from their region of residence and no longer be deprived of the support of family and friends.

Place more emphasis on equity of outcomes

In most countries, equity policies have traditionally emphasised equity of access. However, gaining access to tertiary education does not guarantee the successful completion of a degree programme. In a number of countries, while progress was achieved in relation to the participation rates of some under-represented groups, success and retention rates for those groups often remained disappointing. There is considerably less knowledge about the obstacles that disadvantaged students encounter to succeed in tertiary education than about the obstacles they encounter prior to accessing tertiary education. In most countries greater emphasis needs to be placed on equity of outcomes with policies more targeted at ensuring the success of students from under-represented groups. This would translate into more emphasis being placed on student progression throughout studies with special support and follow-up measures to assist those students at risk of failure.

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Table of contents

Boxes

Tables

Figures

Table of contents

Boxes

Figures

Tables