Tertiary Education for the Knowledge Society

OECD Thematic Review of Tertiary Education: Synthesis Report

Volume 3

Tertiary Education for the Knowledge Society

OECD Thematic Review of Tertiary Education: Synthesis Report

by

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Volume 3 of 3

This three-volume Synthesis Report has been prepared for release and discussion at *Tertiary Education for the Knowledge Society*, an international conference to present the results of the OECD Thematic Review of Tertiary Education in Lisbon on 3-4 April 2008. The report will be published by the OECD later in 2008. Countries will have an opportunity to identify any factual errors in the text before publication.

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9.1 Introduction

Tertiary education has become a central means by which young adults equip themselves for working life - or working adults refresh their skills. In some countries it is now the *leading* means by which they do so, accounting for a larger share of new entrants to the labour market than any other education or training pathway. In OECD countries, nearly one third of adults between the ages of 25 and 34 hold a tertiary qualification. In the Republic of Korea, about one-half do (OECD, 2007a).

The size and shape of modern tertiary education is rooted in its relationship to labour markets. Seen from the vantage point of governments, widening access to tertiary education can assist in the development of a highly-skilled workforce instrumental to increase the knowledge intensity of traditional industries, expand the capacity of innovative economic sectors and by this means increase the potential for growth (see Chapters 2 and 7).

Tertiary education assumes a newfound economic prominence in the estimation of students and governments. Yet, it is precisely its expanded size and prominence that has given rise to new questions about the suitability of linkages between tertiary education and labour markets. Given the tremendous expansion of tertiary education, is there an over-supply of graduates relative to labour market demands? Are students studying the right types of subjects, or is there instead a mismatch between the courses that they choose and the needs of the economy? Are the skills and capabilities acquired in tertiary education appropriate to the demands of working life? In short, how can governments ensure that their country's policy framework appropriately links the developmental capacities of tertiary education to the demands of labour markets in a knowledge economy?

This chapter addresses these questions. Section 2 provides an overview of the labour market outcomes of tertiary graduates. Section 3 investigates whether the skills and abilities obtained by tertiary graduates respond to the demands of the labour market. Section 4 examines the institutions and policies used in reviewed countries to link labour markets to tertiary education. Finally, Section 5 concludes with policy options for countries to consider.

9.2 Labour market outcomes of tertiary graduates

The continued growth of tertiary education is partly rooted in the desire of students to reap the private economic benefits of study. They recognise that tertiary graduates experience, on average, lower rates of unemployment and higher wages than those who study to the secondary level. There is also evidence that students with higher levels of

education are more likely to participate in the labour market and have greater access to further training. Hence, a majority of 15-year olds in OECD countries (57%) expect to complete a tertiary education (OECD, 2007a).

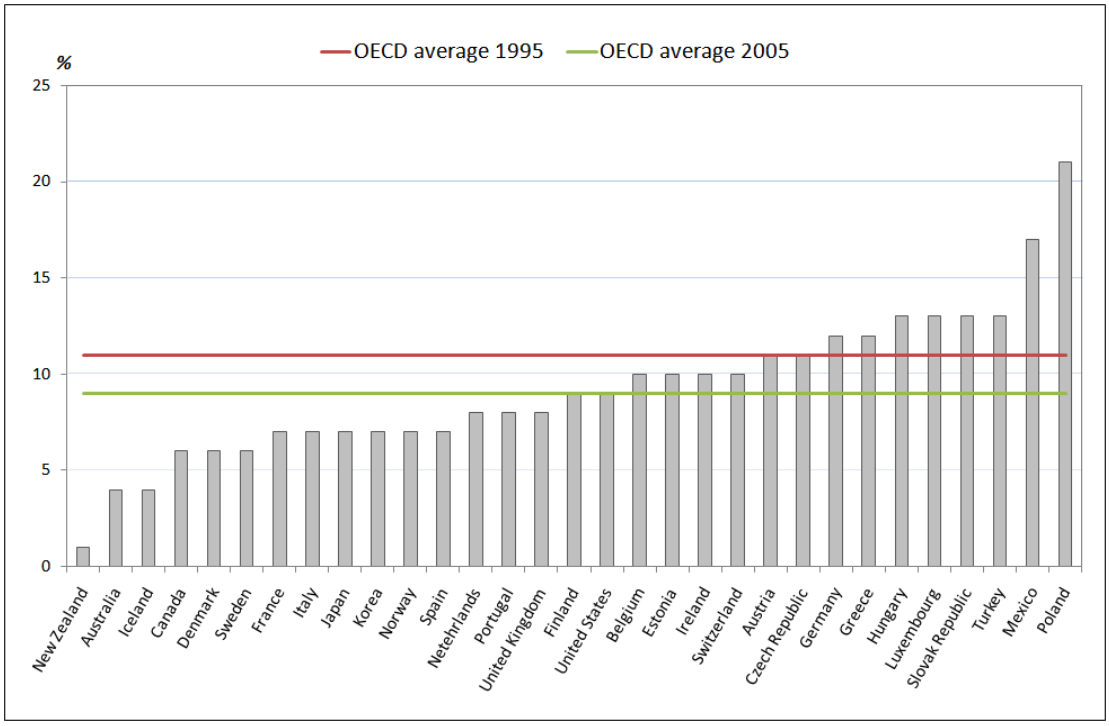
This expansion of tertiary enrolment has been driven not only by demand on the part of prospective students, but also by the willingness of governments to accommodate their aspirations through expanded supply - either directly through publicly organised and financed tertiary education, or by authorising and regulating private institutions, and assisting with the private financing of study, *e.g.* through the guarantee of student loans.

Higher employment rates and lower risk of unemployment

Employment rates of individuals with higher levels of education are higher. In OECD countries, the employment rate among those having attained tertiary education is on average 10 points higher than that of those having attained upper secondary and post secondary non-tertiary education. Japan, Korea and Turkey are among the countries with lower employment rates for tertiary educated (below 80% in 2005), whereas Iceland and Switzerland are among the countries with the highest rates (above 90%).

The employment gap between the tertiary educated and individuals with secondary education only has decreased on average in OECD countries during the last decade (from 11 to 9 percentage points, see Figure 9.1). Significant disparities across OECD countries persist in 2005, however, with differentials below 5 percentage points in Australia, Iceland and New Zealand and above 15 percentage points in Mexico and Poland (Figure 9.1).

Figure 9.1. Employment rates differentials between the tertiary and the upper secondary educated, 2005



Countries are ranked in ascending order of the employment rates differentials between the tertiary and the upper secondary educated.

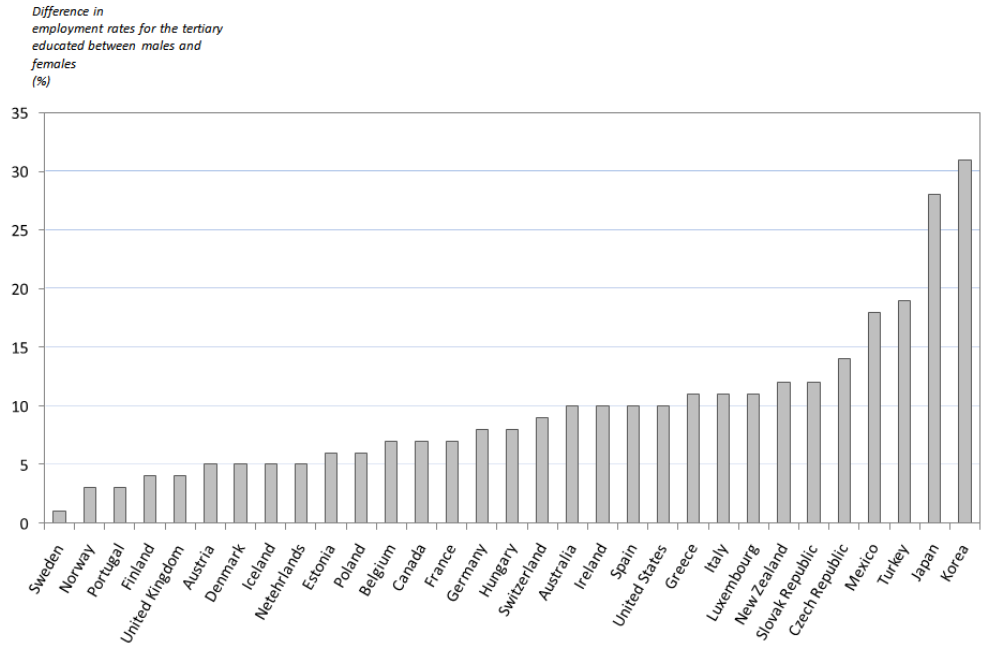
Source: OECD (2007a).

This relative better outcome for tertiary educated workers is due to several reasons: a) high educated workers can, in principle, perform different types of jobs, having also the possibility to compete for low-skilled jobs with the less educated, mainly in periods of depressed labour demand; b) higher levels of educational attainment may be associated with better labour market information and more effective-job search techniques, thereby reducing the likelihood or the duration of unemployment and c) potential earnings from market activities are greater in the case of high-educated people which increases the incentive of participating in the labour market compared to staying on income-replacement benefits or staying at home (Bassanini, 2004).

The differences in the employment rates across countries depend greatly on women participation in the labour market. The gender gap in employment rates for those having attained tertiary education stands on average at 10 percentage points since the end of the 1990s, even if there are important variations across countries. In 2005, the employment rate of tertiary educated females was similar to that of males (not more than 5 points of difference) in Austria, Denmark, Finland, Iceland, Netherlands, Norway, Portugal, Sweden and the United Kingdom. However, in Japan, Korea, Mexico and Turkey the gap doubled the OECD average, showing still an underutilisation of the human capital available, even if a progressive reduction has been observed in these countries during the last decade (Figure 9.2).

Moreover, the differences in employment rates between the tertiary educated and individuals with secondary education only is higher for women in all OECD countries. In 2005 the average differential in the OECD area was of 6 and 13 percentage points for men and women respectively. In general the gender gap in labour market participation is lesser among the tertiary-educated than among those with lower levels of education.

Figure 9.2. Gender gap in employment rates for the tertiary educated, 2005



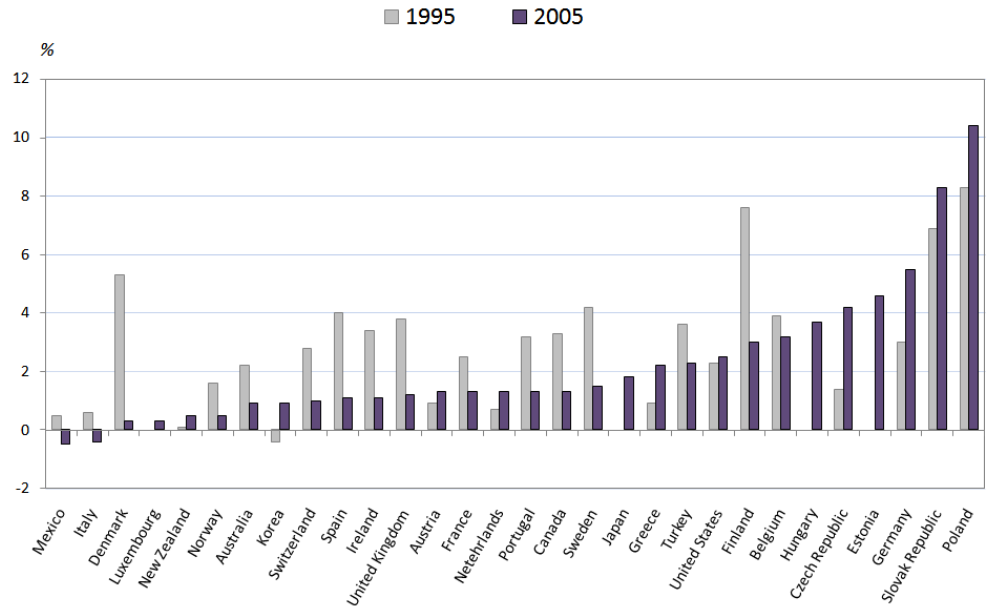
Countries are ranked in ascending order of the gender gap in employment rates.

Source: OECD (2007a).

Unemployment rates tend to decrease on average with educational attainment. The unemployment rate of those with tertiary education was in 2005, on average, of 4% in OECD member countries, although with an important variation across countries, ranging from 2% in the Czech Republic, Ireland, New Zealand and Norway, to over 6% in France, Greece, Poland, Spain and Turkey. Moreover, the unemployment rate of those with tertiary education was two points lower than for those with upper secondary education and seven points lower compared to those having less than upper secondary education.[1] In the Czech Republic, Estonia, Germany, Poland and the Slovak Republic the tertiary educated experience the lowest risk of unemployment compared to their less educated counterparts. By contrast, in Italy and Mexico the unemployment rate of the tertiary educated exceeds that of individuals with upper secondary education only (Figure 9.3).

In addition, although the unemployment gap between the tertiary educated and those with upper secondary education only has not changed on average in OECD countries during the last decade, in more than half of the OECD member countries, the relative position of the tertiary educated has slightly deteriorated. It has however clearly improved in Austria, the Czech Republic, Germany, Greece, Korea, the Netherlands, Poland and the Slovak Republic, remaining almost unchanged in New Zealand and the United States (Figure 9.3).

Figure 9.3. Unemployment rates differentials between the tertiary and the upper secondary educated, 1995 and 2005



Countries are ranked in increasing order of the 2005 unemployment rates differential.

Notes: For 1995, no data were available by educational attainment in Estonia, Hungary, Japan and Luxembourg.

Source: OECD (2007a).

[1] This confirms what is shown by Blöndal *et al*. (2002) and Oliveira Martins *et al.* (2007), that the gap in unemployment rates is large for those investing in upper-secondary education (relative to lower levels of education) and it is smaller between tertiary educated workers and those with upper secondary education only.

Women experience in general higher unemployment rates than men, although this gap tends to decrease with educational attainment. On average, the gender gap in unemployment rates among the tertiary educated was below one percentage point in 2005. However, in Greece, Italy and Turkey, tertiary educated women still experience unemployment rates almost double of those of their male counterparts, followed, to a lesser extent, by Japan, Luxembourg, Poland, Spain, the Slovak Republic and Switzerland (OECD, 2007a).

An important question is whether or not labour markets are generating enough jobs requiring high-level skills to absorb the expanded supply of tertiary graduates or whether, on the contrary, tertiary graduates end up in jobs not requiring tertiary education qualifications, provoking a crowding-out effect on less educated workers. It has also been argued that the increase in the number of tertiary educated students entering the labour market would have deteriorated their labour market outcomes.

There is no clear evidence sustaining either the crowding-out effect or the deterioration of the labour market outcomes of the tertiary educated.[2] Evidence from OECD member countries suggests that in countries having experienced a rapid growth of their tertiary education system (Australia, Belgium, Canada, France, Ireland, Korea, Poland, Spain and Sweden), the relative unemployment rate of those with secondary qualifications has not increased substantially, contrary to what the crowding-out or displacement hypothesis would have suggested (OECD, 2007a).

Earnings and wage premia[3]

In OECD countries, earnings differentials between those who have tertiary education – especially those completing a tertiary-type A programme – and those who have upper secondary education are generally more pronounced than the differentials between those with upper secondary education and those with lower levels of education (OECD, 2007a).

By gender, the earnings differentials between those with tertiary education and those with secondary education is higher for women than for men in most OECD countries (exceptions are the Czech Republic, Finland, Hungary, Italy, Luxembourg, Poland and the United States). Gender disparity in earnings remains significant in all countries and for all levels of educational attainment. However, it is lowest among individuals who attained tertiary education. At this level of educational attainment, earnings of females vary between less than 60% (in Austria and Italy) to around 80% (in Belgium, Luxembourg and Turkey) of those of males (Figure 9.4).[4]

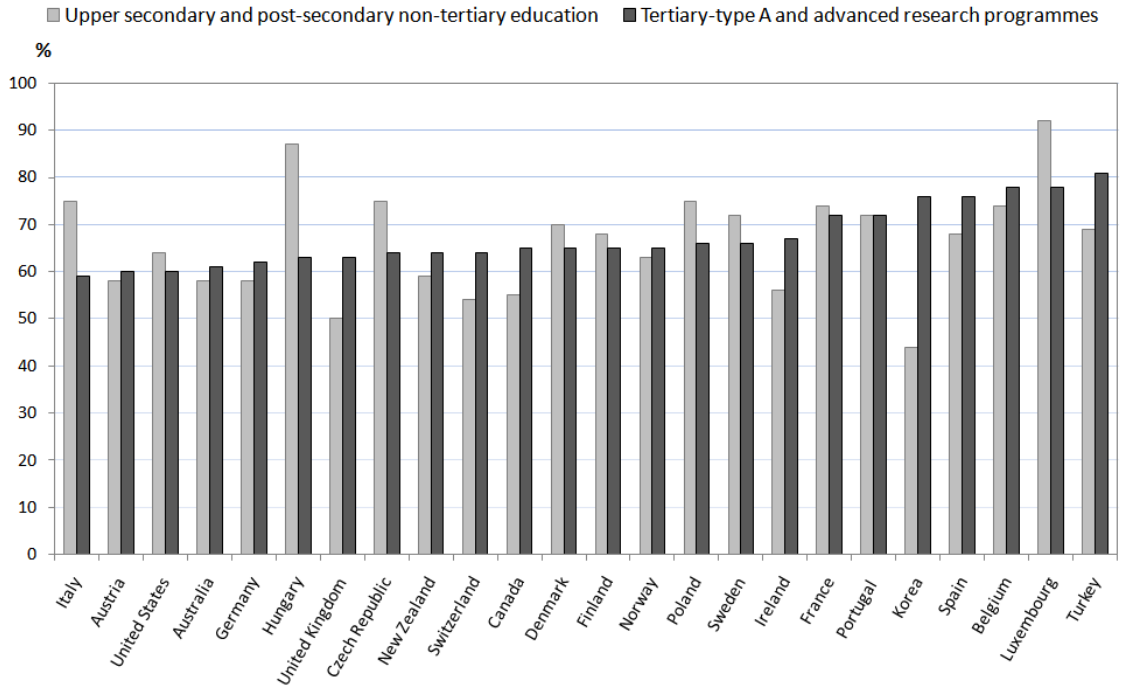
2 See Hansson (2007) for a detailed discussion.

3 Chapter 2 provides a discussion of wage *premia* and rates of return to tertiary education.

4 As noted in OECD (2007a), data on earnings differentials between men and women have to be taken with caution, as in most countries earnings data do not differentiate between full-time and part-time work. Although its incidence varies greatly across OECD countries, part-time work tends to have greater incidence among females.

Figure 9.4. Differences in earnings between females and males, 2005 (or latest available year)

Average female earnings as a percentage of male earnings (30-44 years old group) by level of educational attainment



Countries are ranked in ascending order of earnings differences between females and males with tertiary education.

Notes: The year of reference is 2002 for Luxembourg, 2003 for Korea and 2004 for Belgium, Canada, Denmark, Finland, Ireland, Italy, Norway, Poland, Portugal, Spain, Sweden and Turkey.

Source: OECD (2007a).

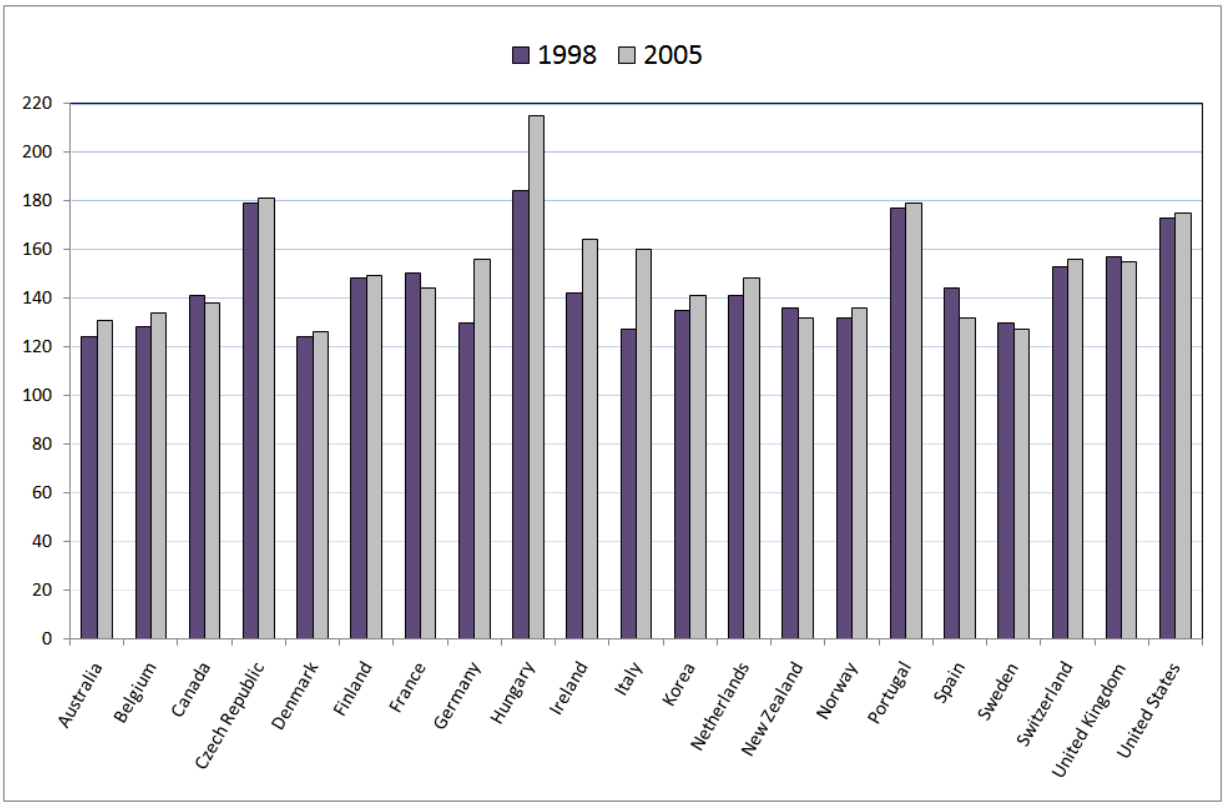
The expansion of tertiary education in the last decade has prompted the widespread concern that there may be an over-supply of tertiary graduates that, all else being equal, would lead to a reduction in the wage advantage of the tertiary educated. However the latter may remain unaffected or even increase if the demand for tertiary graduates by employers grows in greater proportion. In OECD countries there is some evidence that the gross wage premium of tertiary graduates has not changed significantly, having even slightly increased in many countries, rather than decreased. As shown in Figure 9.5, in 15 out of the 21 OECD countries for which comparable data were available for the period 1998-2005, earnings differentials have increased. Whereas there has been a clear improvement in the relative position of the tertiary educated in Germany, Hungary, Ireland and Italy, Spain has experienced the greatest deterioration.

Nevertheless, even in countries where the wage premium has fallen, returns to tertiary education remain positive. The available evidence on wage *premia* does not point to an over-supply of tertiary graduates. It appears then that in most of the cases there has been a simultaneous increase in the demand for tertiary graduates sufficient to absorb the rise in supply.

The causes for an increase in demand for tertiary graduates can be varied, but the predominant view is that skill-biased technology change, exemplified by the introduction of new information technologies into the workplace, has been a major contributory factor.[5] This view is based on the hypothesis that employers' demand for skilled workers has been shaped by the kinds of technologies that are permeating into modern workplaces. In this environment, employers are willing to pay more to workers who have the skills to operate the new technologies. There is good evidence supporting the importance of skill-biased technical change internationally as opposed to competing explanations such as increased globalization (Berman *et al.* 1998, Machin and Van Reenen, 2006).

Figure 9.5. Change in relative earnings of the tertiary educated, 1998 and 2005

For 25-to-64-year-olds, upper secondary and post-secondary non-tertiary education = 100



Source: OECD (2007a).

The role of the type of institution attended

It is often noted that graduates' outcomes are associated with the type of institution attended. For example, in the Netherlands, graduates from research-intensive universities have a salary which is, on average, 30% higher than that of graduates from the

5 See Machin and McNally (2007).

universities of applied science.[6] Anecdotal evidence from Korea and Poland suggests that graduates from particular tertiary education institutions (TEIs) have fewer difficulties in finding a job. In New Zealand, the average annual income of university students is 1.4 times higher than that of graduates from institutes of technology.

As pointed out by Machin and McNally (2007), it is difficult to separate the effect of institutional type from the fact that students with very different characteristics may choose to attend different types of institutions. For example, if higher ability students are more likely to attend higher quality institutions, it is difficult to know whether to attribute any institution-related premium to higher ability of the student or to the institution she attends. If institutions differ according to the type of education provided (*e.g.* academic versus vocational), differences in the TEI premium may reflect differences in how the labour market rewards different types of education rather than reflect anything about the quality of the educational establishment.

Status of employment, job satisfaction and training

Among those who work, the probability of being self-employed increases with age and is higher for men. The share of the self-employed among the tertiary educated was, on average, around 15% in 2005 considering the 20 countries for which comparable data from the European Labour Force Survey were available. When looking at those aged 15-29, this average share halves to around 8%, with important differences observed across countries.

In fact, for the 15-29 years old, the incidence of self-employment is lower for those having a tertiary education compared to those with upper secondary education in most of the countries showing that the tertiary educated do not opt for this status of employment as they graduate. For this age group, the proportion of tertiary educated on self-employment varies from less than 5% in Denmark, Finland, France, Ireland, the Netherlands, Norway and Sweden, to over 15% in Greece and Italy (Figure 9.6).

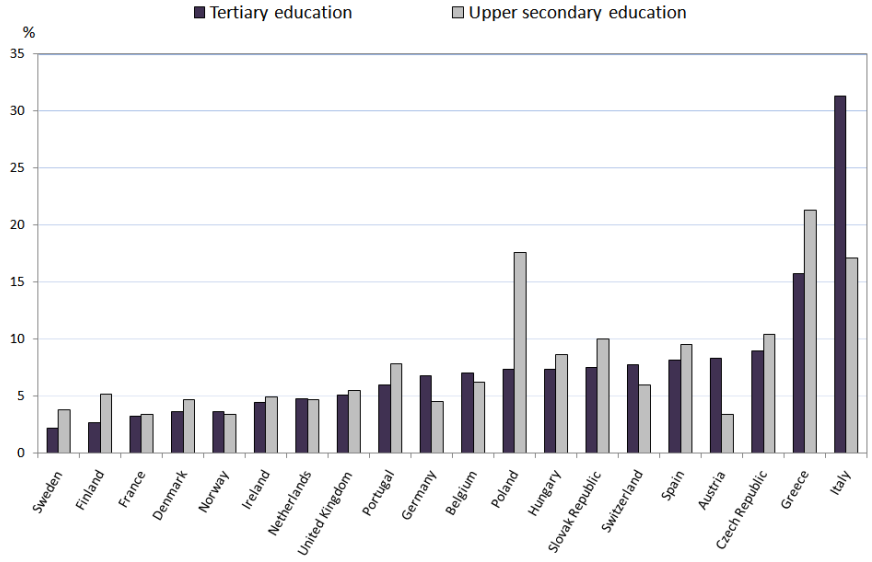
Tertiary educated individuals also tend to work more on a full-time basis than the average individual in the labour market. In 2005, only one in five of those aged 15-29 with a tertiary qualification was working part-time, whereas this proportion was of one in four when no distinction by educational attainment is made. For that age group, the share of tertiary educated women working part-time in OECD countries was on average around 60%, lower than for the whole population and for all levels of educational attainment (72% according to OECD, 2007b).

Working part-time might also be the result of studying to a tertiary degree. In the majority of the countries, tertiary students work during their studies in a proportion that increases with the level of tertiary education. Moreover, the majority of working students choose to take up employment during their studies for financial reasons, more than for professional ones (ESU, 2008, for the European case). There is some evidence that time spent on relevant work experience has a positive effect on competence development and labour market outcomes. On the contrary, time spent in a non-relevant work experience seems to have no effect in labour market outcomes, although it may increase the chance of finding a job (Allen and van der Velden, forthcoming).

6 As of early 2008, the *hogescholen* are authorised to use the English designation of 'universities of applied science' instead of the previously official 'universities of professional education'.

Figure 9.6. Incidence of self-employment by educational attainment, 2005

Share of self-employment among the 15-to-29 years old



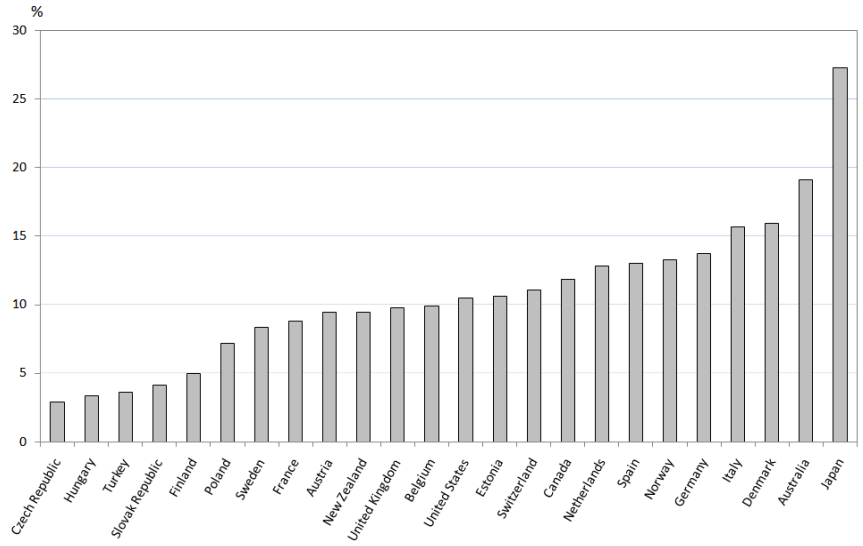
Countries are ranked in ascending order of the share of self-employment for the tertiary educated.

Source: Eurostat, European Labour Force Survey.

When looking at those in employment and not in education, the incidence of part-time employment among the tertiary educated young people falls considerably. The OECD average stands at 11.6%, with a significant variation across countries as shown in Figure 9.7.

Figure 9.7. Incidence of part-time employment among the tertiary educated, 2005

Part-time employment as a proportion of total employment for the tertiary educated aged 15-to-29 years old who are not in education



Countries are ranked in ascending order of the incidence of part-time employment.

Source: OECD (2007a).

Tertiary graduates have, on average, a higher job satisfaction than those with a lower educational attainment. At the European Union level, the Fourth European Working Conditions Survey reveals that higher levels of educational attainment are associated with higher levels of job satisfaction. For example, 51% of workers with a post-graduate degree (ISCED 6) report being 'very satisfied' compared to an average of 25% for the sample as a whole.

Moreover, in what concerns the cognitive and intellectual dimensions of work and the possibilities for professional development (including access to training), as expected, the reported levels of cognitive demands increase with educational attainment whereas the proportion of workers doing monotonous work decreases considerably.[7] The Fourth European Working Conditions Survey also indicates that workers carrying out complex tasks and learning new things at work are much more likely to feel that they need further training which has an impact on actual training levels.[8]

9.3 Skills and abilities of graduates

Different skills are demanded in different sectors and occupations. Unfortunately, there are not many studies tracing skills requirements for specific occupations over time. According to Eberts (2007) there are no sufficient data permitting to determine how much of the increase in skills requirements is attributable to changes within occupations and how much is due to changes in the composition of occupations. This hampers the design of educational and training programmes geared at accommodating the changes. Some studies, however, emphasise that there has been an occupational change towards occupations with higher skills requirements. This supports the shift towards a greater general demand for skilled workers. In fact, the expansionary phase of the beginning of the 2000s was accompanied by greater labour demand both for unskilled and skilled labour, although there seems to be evidence of a bias in favour of "knowledge-intensive" employment (Arnal *et al.*, 2001).

Skills demand and labour shortages

The shift towards a more knowledge intensive employment has been accompanied by some labour shortages. Since the end of the 1990s, shortages in different sectors and occupations have been identified as the main factor hampering economic growth in many countries, being especially acute at both ends of the labour market (among the unskilled and the highly skilled, ranging from ICT workers to agriculture and retail workers).

7 The Fourth European Working Conditions Survey selected eight indicators covering the different aspects of cognitive demands from work: two of them relate to the use of quality standards in the work process (meeting precise quality standards and assessing the quality of one's own work), three refer to the complexity of work and the need to learn new things (solving unforeseen problems, carrying out complex tasks and learning new things), and other three reflect the opposite: whether work has low cognitive demands and is characterized by monotonous and repetitive tasks.

8 It is known that access to training is unequally distributed over the adult workforce in OECD countries. The participation in continuing training varies significantly with age, gender and the level of educational attainment with the lower educated exhibiting lower training participation rates. Older workers and individuals having less than upper secondary education receive less than 50% of the volume of training received by an individual aged between 26 and 65. The same occurs for workers in low-skilled occupations, in temporary jobs, in small firms or in self-employment (OECD, 2006a).

Labour shortages were identified in a number of countries in the Review. In New Zealand, for example, the Department of Labour indicates shortages in major professional and trade occupations (*i.e*. IT professionals, pharmacists, social workers, occupational therapists, nurses), due mainly to retirement and occupational wastage, combined with a growing demand that cannot be met by the increase in supply of these professionals. In Australia, important shortages were reported in the nursing and education sectors too. In the Netherlands, there is concern about insufficient supply of graduates in the fields of technology, teaching and healthcare professionals (especially nurses). In the United Kingdom, the Third National Employer Skills Survey showed that in 2005, employers indicated experiencing skill shortages in a quarter of their vacancies, although the proportion of employers affected by skill gaps in the workforce has decreased compared to 2001 (Learning Skill Council, 2006).

Many of the instances of labour shortages are associated with ageing populations and the retirement of many professionals (*e.g*. in the education and healthcare systems), while others are associated with the areas of science and engineering (see Chapter 7). For example, in the Netherlands, the tertiary system is perceived as producing an insufficient number of tertiary graduates in science and engineering. As shown in Section 9.4.1, compared to other OECD countries, the Netherlands has a small share of science and engineering graduates, and a declining share, as well. In the 1970s about 25% of university graduates were in the science and engineering fields, while by 2005 this proportion had fallen to 18%, compared with a share above 30% in countries such as Finland, Germany, Korea and Switzerland.

Nevertheless, analysis of the Bureau for Economic Policy Analysis (CPB) investigating the interaction between the Dutch demand for and supply of science and engineering graduates through a wide range of labour market indicators (vacancies, unemployment rates, wages, labour market participation and weekly working hours) did not find evidence of a tight labour market for these graduates. Contrary to what could be expected, the wages of science and engineering workers have declined since 1996 in the Netherlands, compared to other high educated workers (*e.g*. economics graduates). However, although labour market indicators do not provide evidence of a shortage of these graduates, the number of science and technology vacancies 'difficult to fill' continued to grow during the period 2003-2006. According to CPB (2005), the potential shortage situation has not been accompanied by an increase in salaries of these professionals mainly because higher educated science and engineering personnel are less sensitive to pay levels than other personnel, and because their job market is more international than for other professionals. Similar conclusions concerning the role of the internationalisation of research and development activities and the internationalisation of the labour market for science and engineering graduates have been drawn for the United States (Freeman, 2005).

ICT skills, soft skills and entrepreneurial skills

Some skills seem to be in greater demand than before. It seems that the growing internationalization and globalization trend due to technological change, the increasing emphasis on education and training as well as the increasing volatility of labour market processes have given rise to new requirements of skills and competencies.

Some argue that technology and ICT have made performing some jobs less demanding. By contrast, others argue that the skills requirements are much greater than in the past (Eberts, 2007). Some analysts suggest that with the expansion of ICT and the

Internet, the demand for individuals with ICT-specific skills has risen. There is a growing consensus that, for example, ICT literacy has become almost as important as general literacy and numeracy for most jobs.[9] "Soft skills", understood as communication and inter-personal skills, have also been in growing demand in the labour market in recent years. Valuable as they are, however, "soft skills" remain complementary to the traditional skills associated with substantive areas of knowledge.

According to a recent survey among teaching professionals in tertiary education in the 27 Member States of the European Union, as well as in Croatia, Iceland, Norway and Turkey, almost three out of four teaching professionals agree that study and training programmes should encompass more generic competences, such as communication, teamwork and entrepreneurship in order to better adapt to labour market needs (European Commission, 2007a).

Some authors have pointed to the different values accorded by labour markets to generalist versus specialist skills suggesting that a too specific education can be an important limitation mainly in periods of rapid structural change. In that sense, Wasmer *et al.* (2007), Krueger and Kumar (2003, 2004) suggest that a more general education is of greater value to an economy, based on the argument that returns to academic qualifications are generally found to be higher than returns to vocational qualifications.[10]

However, the debate on generalist versus specialist skills should not be separated from the different roles and missions that different types of institutions should have. Whilst it can be argued that 'employability' and 'relevant and up-to-date skills' should feature prominently in vocationally oriented education at all levels, there is an equally strong case to be made for universities focussing on a somewhat different set of values and graduate attributes.

It seems generally admitted that in a context of globalization and rapid labour market changes workers face an increasing need to ensure adaptability and employability over their entire work career and that these characteristics can be better offered by a more generalist education. Moreover, the success of technological and organisational innovation depends to a large extent on the ability of individuals to absorb change and adapt to it, which often requires further on-the-job training.[11]

9 A recent European Union survey on ICT usage in households and by individuals shows that, in 2006, almost half of EU-25 young men aged 16-24 were considered as having high computer skills, against a third for the 25-54 age range. However, for women computer skills remain below those of men. Women also tend to be less present than men in ICT jobs across the EU-25 (Seybert, 2007).

10 As reported by Machin and McNally (2007), such findings raise questions about the structure of education in many European countries, where students are required to choose between a general (academic) route and a vocational route at an early age, with limited transferability between the two sectors and perhaps insufficient 'general education' within the vocational route. In fact, on the basis of cross-country evidence in Europe, Bassanini *et al.* (2006) argue that countries with less stratified schooling systems have endowed workers with more versatile skills, who need less training to adapt to technical progress than their counterparts in countries with more stratified schooling systems.

11 There is some evidence that the rate of adoption of new work practices is positively associated with both the level of educational attainment and firm training. This can be interpreted as a need for training workers in order to implement new work practices (Arnal *et al.*, 2001).

As shown in a recent survey conducted in sixteen countries (the REFLEX survey),[12] tertiary education graduates are increasingly expected to be competent in different domains ranging from professional expertise, functional flexibility, innovation and knowledge management, mobilisation of human resources[13] and international orientation. According to the survey, the main determinant of labour market success of tertiary education graduates seems to be their professional expertise in a specific field, followed by their capacity of mobilisation of human resources.[14] The role of flexibility as a core competence for the labour market seems to be less clear. However, even if competences related to functional flexibility are not rewarded in the labour market, they seem to play a role in protecting graduates when they are confronted to changes at work.

The survey also indicated that, for one out of four working graduates, knowledge and skills were perceived as not fully used in their work, showing that employers might not make full use of the human capital available to them. This is confirmed in fields of study known as producing graduates that find it difficult to find work matching their knowledge and skills (*e.g.* the humanities) and has a higher incidence in Southern European countries and in the United Kingdom, compared to the rest of the countries.

The CHEERS[15] 1999 study, predecessor of the REFLEX survey that included also tertiary graduates from Japan, reveals differences across countries in the way tertiary graduates perceive the match between their education and working life. For example, a much smaller share of Japanese university graduates (24%) reported that they made "extensive use of the knowledge and skills acquired during university study" than was the case for European countries (54%). These different perceptions by Japanese students can be explained in part by the fact that Japanese universities have been traditionally Humboldtian in orientation; professional associations have been weakly influential in shaping tertiary courses; and prestigious large employers have traditionally recruited graduates not on the basis of academic performance or specialized skills, but rather on the basis of a graduate's expected aptitude for a lifetime of learning and growth within the firm, the proxy for which has been institutional selectivity and reputation.

While European and Japanese university graduates participating in the CHEERS survey were equally likely to report that problem-solving was a key competency for working life, 58% of European graduates reported that this was a competency acquired by the time of graduation (as opposed to 39% of Japanese graduates). By way of contrast, graduates of Norwegian and Swedish tertiary education programmes reported

12 The REFLEX survey, which examines the "The Flexible Professional in the Knowledge Society" and the associated new demands on higher education in Europe, was conducted in 2005 in Austria, Belgium, the Czech Republic, Estonia, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom with a sample of 35 000 graduates five years after leaving tertiary education. See www.fdewb.unimaas.nl/roa/reflex for more detail.

13 The mobilisation of human resources is understood as inter-communication, team-work and any other skill permitting to put the own knowledge to good use for the employer, as well as playing an active role in mobilising the skills of others.

14 Almost half of the surveyed graduates considered that the stronger aspects of the programmes they attended were the expertise acquired in their field of knowledge, followed by the analytical thinking and the ability to acquire new knowledge. By contrast, the weaker aspects of the programmes attended related with the acquisition of foreign languages, as well as with the ability to assert authority, negotiate and make presentations.

15 CHEERS stands for 'Careers after Higher Education: a European Research Study'.

distinctively strong connections between education and work: 5 and 12%, respectively, indicated that they had made "little use of knowledge acquired in their tertiary studies" and 64% of Norwegian and 75% of Swedish graduates reported that "problem-solving competencies had been acquired at the time of graduation."

Concerning other skills, such as entrepreneurial skills, the REFLEX survey reveals that only 20% of graduates surveyed indicated that their tertiary education programme provided a good basis for developing entrepreneurial skills. In the European Union the role of tertiary education in promoting more entrepreneurial attitudes and behaviours has been recognised. There is growing consensus that TEIs should further integrate entrepreneurship into programmes and courses with special attention devoted to matching entrepreneurship training with scientific and technological studies in order to encourage spin-off and innovative start-ups.[16]

In Australia, the Business Council of Australia has raised concerns that graduates are not taught problem solving skills and that the abilities they develop are more suited to further study than to integrate the labour market. Other concerns include the lack of entrepreneurial skills as well as the lack of skills such as creativity, initiative and oral business communication (Business Council of Australia, 2006). An initiative to respond to these concerns is the Business, Industry and Tertiary Education Collaboration Council launched in 2004, which explores in close collaboration with employers, alternatives to strengthen graduate employability skills.

Over-education and skills mismatch

Frequently public officials, business leaders and tertiary graduates themselves express that some tertiary graduates find it difficult to find a job suited to their training, and must take up positions for which they appear to be "over-qualified" or "incorrectly matched". There is a concern that a growing number of young people might be performing jobs requiring lower skills than those acquired in tertiary education.

In fact, some concerns were raised about over-education and skills mismatch in some of the countries participating in the Review. For example, in Korea, there is the perception that a proportion of university graduates take jobs designed to college graduates whereas college graduates similarly fill jobs that previously were given to graduates from secondary vocational schools. This displacement process, together with the intense societal pressure to attend tertiary education, might in turn have led to apparent shortages of trade-level workers (*e.g.* electricians, plumbers, mechanics, and secretaries required for construction, assembly lines, and modern corporations). This situation might be explained both by the growing demand for tertiary education and the excessive supply of places in TEIs, expansion that might not have been followed by a proportional demand for jobs requiring tertiary qualifications.

In Mexico, it was reported that between 1990 and 2000, 45.6% of tertiary graduates did not find employment in an area matching the competencies and skills acquired in tertiary education (ANUIES, 2003). Of those, about half were employed in less specialised areas in which most employed individuals did not hold a graduate degree, suggesting an over-education situation in which the supply of jobs requiring tertiary level

16 The European Commission launched a project to assess in quantitative and qualitative terms the teaching of entrepreneurship courses and programmes in European TEIs (final report forthcoming in 2008). See http://ec.europa.eu/enterprise/entrepreneurship/support_measures/highed/index.htm.

skills and competencies did not match the number of graduates with such skills. Moreover, according to the Mexican Labour Market Observatory, in 2005 about 30% of graduates were not employed in their area of tertiary training.

In China, there are reports that many tertiary graduates are disappointed upon entering the labour market as they often do not access a job matching the tertiary education received. Graduate unemployment co-exists with excess demand for graduates from the vocational rather than the academic pathway. This mismatch between the supply of graduates and job opportunities might be explained by the very rapid economic changes recently experienced; the institutional inflexibility in changing course content and curricula as well as some limitations on labour mobility, even for new graduates. Moreover, the very rapid growth of graduates may have resulted in graduates having unrealistic high job expectations based on patterns of earlier student cohorts, and therefore reluctance to accept the first job offered.

In Estonia there are also concerns that a significant proportion of graduates does not find employment in areas matching the competencies and skills acquired in tertiary education. For instance, only 54% of 1999-2000 and 57% of 2002-2003 graduates from teacher education and health care programmes were employed in teaching and health services in 2005. This might indicate that, in some instances, the supply of jobs requiring tertiary level skills and competencies does not match the number of graduates with such skills (an alternative explanation is that salary levels in the public sector have not been responsive enough to reflect real demand). In the Czech Republic the skills mismatch has been reported mainly for graduates from agriculturally-oriented programmes and for the humanities, areas for which respectively 77 and 53% of graduates found jobs in areas unrelated to their field of study.

However, there is not much empirical evidence to illustrate the possible extent of over-education or skills mismatch among the tertiary educated in these countries. The literature on over-education is quite controversial due to conceptual difficulties in defining and measuring such phenomena. Three main measures of over-education have been used: a) one approach is based on the views of 'work-study experts', who determine the skill needs of an individual's occupation, b) another approach is to use surveys of job holders to ascertain their view of the qualifications needed to do a job and c) a third approach is to calculate the average education levels in an individual's occupation. [17]

For example, using data from the European Union Labour Force Survey, Quintini and Martin (2006) found important variations across countries in the extent of over-education among the young.[18] In Poland, the Slovak Republic and the United Kingdom 30% of the 15-28 years old are found to be over-educated against less than 10% in Iceland and Portugal. In countries with well developed apprenticeship systems (*e.g.* Austria, Denmark, Germany and Switzerland) the level of over-education among the 15-28 years old seems to be relatively low, although these countries are closer to the average than to the 'best' performers. Moreover, between 1995 and 2005, over-education increased in 15 of the 22 countries for which data were available, in a significant way in Austria, France,

17 Verhaest and Omey (2004) show, both formally and empirically, that the choice of the measure for over-education is crucial for the outcome of the analysis.

18 In Quintini and Martin (2006), an education level (out of three) is attributed to each 1-digit occupational code based on the skill content of each broad occupational grouping. A person is then classified as over-educated when his/her educational qualification is higher than that attached to their occupation.

Luxembourg and the United Kingdom.[19] The study also shows that over-education is more common among 15-28 years old workers who are on temporary or part-time jobs and more prevalent among women than men.

Using data from the European Social Survey and the European Labour Force Survey for 19 countries, Koucký and Lepič (2008) suggest that between 1995 and 2006, the supply of tertiary education expanded at a greater pace than the demand for tertiary qualifications. On average, in 2006, they find that the size of the tertiary educated population exceeded in 6% the volume of jobs requiring tertiary qualifications, although there is considerable cross-country variation. Spain, and to a lesser extent Finland and Ireland are among the countries where such gap is greater. By contrast, in the Czech Republic, Italy and to a lower degree, Austria and Portugal, the supply of tertiary graduates is insufficient to fill in the available jobs which require tertiary qualifications.

The results of Wasmer *et al.* (2007), looking at over-qualification and skill mismatch using data from the European Community Household Panel for France, Germany, Italy, Spain and the United Kingdom found that the incidence of being 'non-over-qualified and well matched' increases with age and labour market experience, and is less common for individuals with a tertiary degree in all countries.[20] Controlling for sector, occupation, and year (as well as some personal characteristics) they found that the probability of being over-qualified declines with labour market experience in all countries, which goes in line with a transitory interpretation of the incidence of over-qualification.[21] There are important cross-country differences with the probability of being over-educated being the lowest in Italy and the highest in the United Kingdom.[22] The differences across countries may arise from a large number of factors. They could be caused by the design and efficiency of the different educational systems in providing the skills demanded by the market or might be related to the interplay of institutions, educational choices and the functioning of the labour market in matching the supply of and demand for skills.

In conclusion, even if to a large extent, over-education and skills mismatch can be seen as a natural process of transition from education to work, further research is needed

19 McIntosh (2005) also finds evidence that in the United Kingdom the extent of over-education has increased over time (about 7 percentage points since the mid-1980s).

20 Wasmer *et al. (*2007) use the following example: if an individual with a PhD in mathematics is working as a university professor, he would be classified as 'non-over-qualified and well matched'. However, if he works as a research assistant he would be classified as 'over-qualified but correctly matched' (as he would have education and training sufficient for the job but his qualification suggests he could work at a higher level). If he works as the CEO of a multinational firm, he would be classified as 'non-overqualified and mismatched' because his formal qualifications do not provide the education required for the job, yet he is not 'over-qualified'. If he works as an electrician, he would be classified as 'over-qualified and mismatched'. In this case, his education does not provide the knowledge required in this job and his qualification suggests he should be eligible to apply for a 'higher status' job.

21 Some authors point to the interpretation of over-education as a temporary phenomenon (Dorn and Sousa-Pazo, 2005; Cardoso, 2004), as a consequence, for example, of a lack of appropriate information by graduates and employers as well as constraints on worker mobility; others suggest that over-education among young graduates entering the labour market compensate for the lack of labour market experience (Sloane *et al.* 1999). In that case, it would be expected to disappear with time as graduates find more appropriate jobs or they are promoted to a level within a given job suiting better their qualifications.

22 For the authors, mismatches do not necessarily imply an inefficient allocation of resources, as workers identified as over-educated might be properly matched if their productivity is lower due to unobserved characteristics.

to explain the cross-country variation of the phenomenon, as it might signal a persistent misuse of human capital requiring government intervention. On the other hand, observing overqualified individuals in the workforce does not necessarily mean that there is an over-supply of tertiary graduates. If this were the case, relative wages and employment probabilities would fall to the level of their closest substitutes, and as already discussed, this has not happened in most of the countries under Review.

9.4 Aligning tertiary education supply with labour market demand

Improving the matching between labour market needs and tertiary education supply is likely to be instrumental for a well functioning economy. In fact, in some countries tertiary education policy appears to place real value and effort into aligning education outputs with labour market demands. But, optimising education provision to meet labour market needs is not an easy task. Often it involves an anticipation of labour market shortages and bottlenecks as well as an accurate identification of skills needs.

The level of detail of policy intervention is an issue. Labour markets are volatile – and that certainly is the case in growing open economies – and future labour market demands are fairly difficult to predict, in particular when the focus is on the knowledge economy where today's cutting edge skills and capacities can be outdated quite fast. In general, average economic trends and the direction of structural changes can be foreseen in the medium term, but the amplitude of the economic cycle and the speed of structural changes are much more difficult to predict. However, some impactful developments can be anticipated. For example, it is known that the ageing of populations will modify the structure of the labour market in most OECD countries. It is expected that it will, for example, boost the demand for labour in the health and social care sectors and lead to shortages in other sectors due to shrinking labour forces. Some policies are now developed to counteract these trends.[23]

In addressing the ties between tertiary education and the labour market, it is important to distinguish between two functions of TEIs: the development of skills and competences; and the responsibility of institutions to ensure the employability of their graduates in jobs which match the acquired competences.

9.4.1 Student demand

In some tertiary systems it is students who are chiefly responsible for aligning tertiary provision towards labour market demands. In largely demand-driven systems, prospective students (ostensibly cognizant of the benefits of tertiary study) choose whether to study at the tertiary level, and what course of study suits their abilities and wage and employment aspirations, while public authorities and tertiary institutions play a largely facilitating role: public authorities ensure that study places are available to respond to student demand, while institutions shift the number and array of courses on offer in response to changing student demand. Hence, student choices about *whether* to study and *what* to study are the primary determinants of how much and what sort of tertiary study opportunities are provided.

[23] In most OECD countries, reforms have been put in place over recent years or are in train to encourage older workers to remain in the labour market for longer (see OECD, 2006b).

In other countries the alignment of tertiary education to labour markets is a central concern of officials in ministries, intermediary bodies, or regional governments, who endeavour to steer the country's system of tertiary education towards closer engagement with the needs of the labour market. Public officials may do this either by shaping the environment of student and institutional choice, or by directly rationing how many study places are provided, and of what kind.

These are not mutually exclusive elements; rather, countries typically combine elements of both although in different degrees. Thus, for example, labour markets and tertiary education are aligned in a system such as Australia's through a basic reliance upon student demand (*i.e.* through students forecasting labour market demand, and selecting study courses in light of this). Student demand, in turn, is shaped by a national policy framework that establishes tuition prices for different study courses and that targets some additional places for fields in which there are labour market shortages, and provides labour market information to prospective and enrolled students. Additionally, public authorities exercise regulatory direction within the system (*e.g.* tertiary institutions cannot close programmes judged to be critical to national needs without government approval).

Study fields chosen by students

In many of the countries participating in the Review, public officials and business leaders often expressed concern that students are not making the right study choices – that the fields in which students enrol correspond poorly to the needs of the labour market. In some OECD countries and partner economies, concerns are expressed that the number of students enrolled in the arts, social sciences, law, and business fields substantially exceeds labour market demand, while the number enrolled in health-related studies, natural sciences, and engineering is insufficient to meet demand.

In Mexico, in 2005, about 30% of employed graduates studied accounting and finance; administration; or law. A few subject areas concentrated too many graduates, indicating an over-supply of these graduates in the labour market. In Poland, there is some concern that the recent expansion in tertiary enrolments was concentrated in the social sciences (in areas such as business and economics) and too few students enrolled in engineering and natural sciences programmes. This expansion of the supply of graduates in the social sciences seems not to have been followed by a corresponding increase in the demand for these graduates as shown by the fact that, in 2001, economists were the largest group among unemployed graduates registered with the National Labour Office (followed by marketing and trade specialists, teachers, political scientists and lawyers).

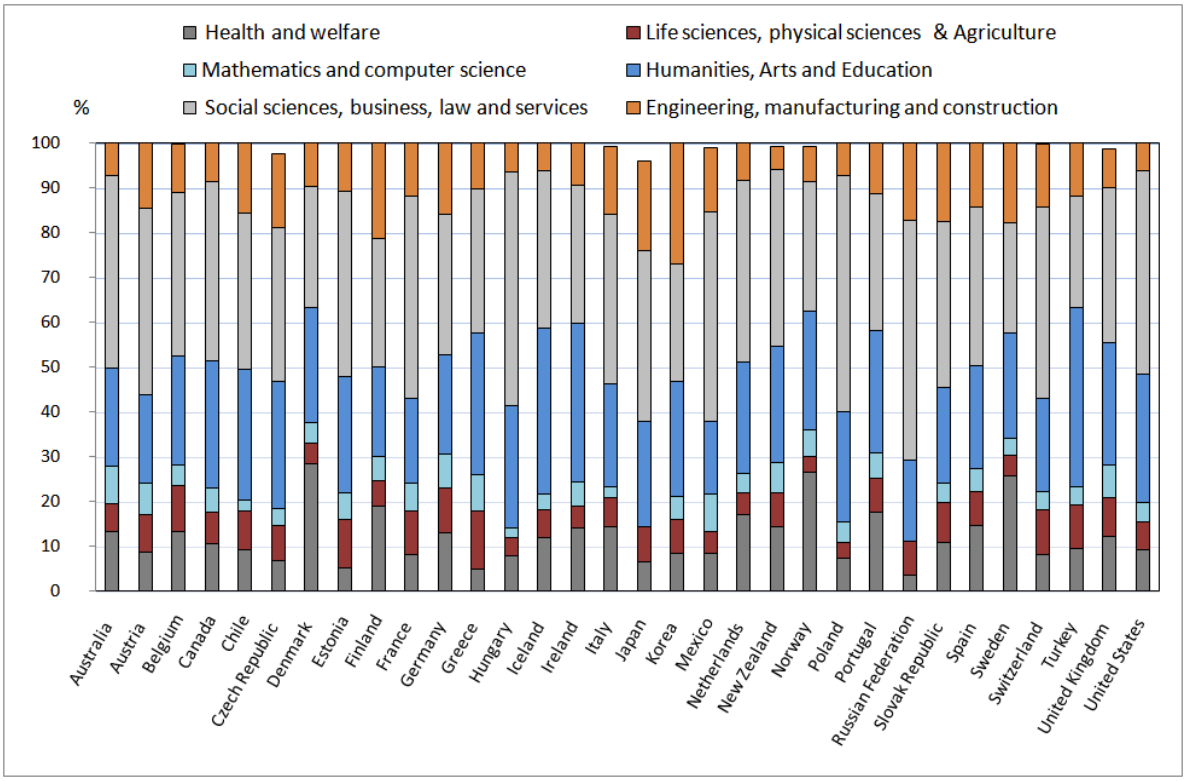
On average in OECD countries, 37% of graduates from tertiary-type A and advanced research programmes undertook studies in the social sciences, business, law and services; 25% in the humanities, arts and education, and 13% in health and welfare studies (Figure 9.8). There are however significant variations across countries. For example, the percentage of tertiary-type A and advanced research qualifications awarded in the social sciences, business, law and services range from less than 30% in Denmark, Finland, Korea, Norway, Sweden and Turkey, to over 50% in Hungary, Poland and the Russian Federation. The largest concentration of tertiary-type A and advanced research qualifications awarded in the field of humanities, arts and education is found in Ireland and Turkey; in the fields of engineering, manufacturing and construction in Korea; and in the fields of health and welfare in Denmark, Norway and Sweden.

An average of 25% of graduates receive a tertiary-type A or advanced research qualification in a "science-related" field (engineering, manufacturing and construction; life sciences, physical sciences and agriculture; and mathematics and computing). This figure is below 16% in Hungary and Poland and exceeds 30% in Finland, Germany, Greece, Korea, and the Slovak Republic.[24] As shown in OECD (2007a), the picture is similar for tertiary-type B education, characterised by programmes which are more occupationally-oriented and usually lead to direct entry into the labour market: the field of social sciences, business, law and services has the largest concentration of graduates (38%), followed by the humanities, arts and education, and science-related fields (both with 23%).

Women and men tend to study different subjects at tertiary level, with consequences for their respective labour market outcomes. In particular, many more women complete programmes in the humanities, arts and education, as well as in health and welfare. By contrast, more men complete tertiary education programmes in mathematics, science and engineering (see Chapter 6, Figure 6.6).

Figure 9.8. Tertiary graduates by field of education, 2005

Tertiary-type 5A and research programmes graduates by field of education



Notes: For Belgium, the German-speaking Community is not included. For Canada and Finland the year of reference is 2004.

Source: OECD (2007a).

24 See Chapter 7 for a detailed discussion on science-related fields and research and innovation.

At the European Union level, there has been a growing concern of the need to increase the number of graduates in mathematics, science and technology (MST), especially among women, in order to take advantage of the potential of a knowledge-based economy and to increase competitiveness in the international markets through an improvement of research and innovation.[25] It is admitted that the failure to increase the number of these graduates and the difficulty to attract and retain these professionals from other countries, compared to the United States, may cause a cumulative lag in innovative potential in science and technology that might dampen European Union productivity and growth.

According to the most recent progress report on the improvements made in education and training to assist the Lisbon Strategy for Employment and Growth, the objective of increasing the number of MST graduates by 2010 seems to have been achieved (European Commission, 2007b). In 2005, there were 864 200 graduates in MST in the EU-27, representing about one sixth of the nearly 5 million MST graduates worldwide for that year. One year earlier, there were 825 000 MST graduates in the EU-27, compared to 227 000 in Japan, 346 000 in the Russian Federation and 407 000 in the United States. In China the number of MST graduates is rising faster, having more than doubled since 2000 to reach 1 020 000 in 2004.

Machin and Puhani (2006), among the few studies having estimated the returns to tertiary education by field of study in a number of countries (France, Germany, the United Kingdom and the United States) at two particular points in time (1993 and 2000) find that an arts degree had the lowest relative return within all countries in both time periods, for both men and women. By contrast, the return to science, engineering, and technology degrees was higher, especially for men.[26] Such findings are broadly consistent with what is perceived in individual countries: that science, engineering and technology degrees provide greater relative returns.

It is often claimed that students are poorly informed about the expected returns to education by study field. In some countries secondary school students have little understanding of tertiary education costs and benefits. Other aspects such as their preferences, their socio-economic situation as well as the changing opportunities in the labour market, and the admission policies and practices of TEIs also affect their study choice.

It is largely assumed that if student demand is to align tertiary provision to the needs of labour markets, students must be well-informed about labour market outcomes in order to be responsive to them in their study choices. Moreover, TEIs must be able and willing to respond to students' choices, and public authorities must provide a policy framework that accommodates both students' choices and institutional responsiveness.

Improving information

There is some evidence in the United States and Canada confirming that, to a large extent, students are informed about future wages and labour market opportunities and are disposed to act on these expectations to align their choices of tertiary education to labour

25 The European Union Council conclusions of May 2003 set the objective of raising the number of mathematics, science and technology graduates in at least 15% between 2000 to 2010 together with the reduction of the gender imbalance.

26 See also footnote 10 in Chapter 2.

market conditions. In these countries, extensive research has been undertaken using micro-level data, and it shows, among other things, that university students have a clear (if sometimes optimistic) understanding of wages associated with alternative careers (Betts, 1996); that students take into account the likelihood they will succeed in a field of study when forecasting future earnings possibilities (Montmarquette *et al.*, 1997); that students' probability of choosing one course of study over another is not myopically dependent upon starting wages, but rather predicted by their expectations of future earning streams (Berger, 1988); and that expected earnings play a prominent role in the field of study chosen by postsecondary students. Students respond in different ways to wage signals. Boudarbat (2004) found that the field of study chosen by Canadian college students shifted in response to changing relative wage and employment prospects - but males, those with prior work experience, and those in business and commerce-related fields were more sensitive in their enrolment decisions to wage changes than were others.

It must be noted, however, that the information lever applies unevenly to different socio-economic groups. For example, Usher (2006) shows that in the United States, those from lower socio-economic groups have shorter-term decision-making horizons and hence, do not give appropriate weight to medium term returns (see Chapters 4 and 6). Not all potential students seem to respond equally to changes in net prices.[27] Often when choosing a study field, decision-making horizons work differently for different ethnic groups and depend heavily on past education experiences (see Chapters 4 and 6).

Additionally, even when students are well-informed about labour market signals in the selection of their courses, there will be delays between demand and supply that lead to cycles of over and under-supply of graduates. As Spetz and Given (2003) observe in their study of the United States nursing labour market, there has been a close link between degrees awarded in nursing and wages, but with a predictable lag. Nursing licensure requires a three year period of study in a university, college, or hospital-based diploma programme; hence, the number of graduates increases in response to wage increases, but with about a two to four-year lag. Throughout the past half century there have been periods of nursing shortages quickly followed by periods of equilibrium or surplus. Similar patterns have been observed in subjects such as engineering (Ryoo and Rosen, 2004), teaching, and other professions, the graduates of which typically take between three and seven years of tertiary education to train.

Research-based evidence with respect to student information elsewhere in the OECD is limited, though some single-country studies have been undertaken,[28] and one large-scale analysis has examined the wage and employment expectations and outcomes for 6000 tertiary-level students in 10 European nations (Brunello *et al.*, 2001). According to the latter study, in assessing wage and employment prospects after graduation, graduates in the humanities and in law had expected to have significantly worse absolute and relative job prospects than graduates in economics and business; students' expectations of their prospects increased significantly when they had parents holding a university degree who had studied in the same field; and that expected job prospects among students who

27 One constant across research findings is that grants/reductions in net price are much more effective among low-income students than among middle or high income students. Some studies have shown that higher-income students were virtually price insensitive when it came to education, but that changes in net costs had a relatively important effect on the more disadvantaged (see Chapter 4).

28 Single country studies include the Netherlands (Webbink and Hartog, 2004), and Switzerland (Wolter and Zbinden, 2002).

plan to finish later than required were lower than those of on-time students. While expected wage gains are higher than actual tertiary wage gains, the wage and employment expectations of tertiary students in Europe otherwise follow closely in key respects the realities of graduate labour outcomes (suggesting that a key basis for demand-driven adaptation to labour markets is present).

According to the reviews undertaken in the project, information provided to students on labour market outcomes, as well as information on teaching and institutional quality is uneven and in most of the cases additional information is needed. For example, in Japan students seem to have information on selectivity and reputation of institutions (like in the United States), whereas reliable information, particularly among prospective students, about teaching, learning and labour market outcomes associated with different tertiary institutions is less developed.

In some countries, such as New Zealand, there is rich information about the outcomes of graduates in the labour market as shown by the fact that most institutions conduct surveys of graduates providing useful information about career paths, views of graduates on their preparation and sometimes employers' assessment of graduates' competencies for work. Students also have access to ample information on educational offerings, course costs, quality of courses, eligibility for student loans and allowances, kinds of jobs available, and the forms of preparation for these jobs.

Yet in other countries, there has been a growing emphasis on giving information about the quality of the courses through different initiatives. The United Kingdom launched in 2005 a National Student Survey (NSS), which aims to gather feedback on the quality of students' courses. The NSS aims both to help inform the choices of future applicants, and to strengthen accountability (see Box 3.2 in Chapter 3). In Germany, the Centre for Tertiary Education Development (CHE) has introduced student-based externally available assessments of their learning experience at the programme level, providing prospective students with information that they may use in choosing among institutions.

In the United States, foundations and researchers have worked with tertiary institutions to develop the National Survey of Student Engagement (NSSE), and 557 colleges and universities participated in the 2006 survey of undergraduates in which they were queried about the level of academic challenge, "time on task", and other dimensions of their learning experience. However, this information was made available to institutions for the improvement of the learning atmosphere, and, less frequently, to prospective students, their parents, and their academic advisors.

But in many countries information on labour market outcomes or on the quality of instruction in institutions is less developed. In those countries, typically, TEIs do not have a good sense of the labour market destinations of their graduates and little attention is devoted to the analysis of graduates' labour market outcomes at the system level.

The importance of career guidance

It is increasingly acknowledged that career guidance is a useful tool to improve labour market supply, address skills shortages and raise the level and the quality of human capital. Career guidance services, both at the secondary and tertiary levels, are likely to be instrumental in improving the efficiency of the linkage between the education system and the labour market, while also enhancing equality of opportunities. The ways in which career guidance is provided might help to articulate students' demand for learning,

contribute to tertiary education access and completion, as well as improve the match between supply and demand in the labour market (OECD, 2004a).

Career guidance provision reflects the economic, social, cultural, educational and labour market contexts in which it operates. However, some similarities emerge regarding the way career guidance services are delivered, the role and the involvement of a range of stakeholders (*e.g.* schools, TEIs, employment services) and how these services are resourced (*i.e.* staff and funding).[29] Concerning the latter, typical issues include weak staffing levels and limited training as well as few opportunities for students to experience the world of work (or to come into contact with tertiary institutions).

Watts and Sultana (2004) find that career guidance services tend to play a more important role in educational systems with more flexible pathways than in educational systems with early-streaming and tracking mechanisms. [30] Greater flexibility given to students to design their own study programme according to their needs and occupational goals makes the link between education and the labour market more complex, and in that sense, renders career guidance more necessary and relevant.

In tertiary education such services are generally limited both in scale and in focus. Career services can be fragmented and not always transparent, rendering difficult the access for students and not offering the type of information they need for their study decisions. This might happen as a result of the lack of coordination between the Ministries of Education and Labour, different sectors of education, or different levels of government.

In the Nordic European countries career guidance is mainly embedded in early intervention programmes incorporating mutual obligation and personal action planning. In New Zealand, the pilot project "Designing Careers", launched in 2004, seeks to provide guidance to students before secondary education completion, with a special focus on students who are at risk of not making successful transitions from school. School students develop career management skills through the use of individual learning and career plans that help them decide which subjects or courses to follow at school, and what further education or work is to be undertaken after leaving school. At the tertiary level, larger TEIs offer specialized career-guidance to students – from the exploration of career ideas and the career implications of subject choices, to information about specific jobs, specialized postgraduate courses, employer profiles and job-searching techniques.

Career guidance is also considered as a way to prevent student failure and to improve the quality of the education received. For instance, Sultana (2004) finds some evidence of a positive link between career guidance provision in higher education and student retention in Finland and Ireland. This has motivated initiatives launched in France in 2008, with the proposal of a career information and guidance service in each university called the active guidance ("*orientation active*"), expected to become available to any new student in the system.[31] The aim is to provide specialised counselling to future

29 See OECD (2004a and 2004b) and Sultana (2004) for a detailed analysis of career guidance policies in OECD and European Union countries respectively.

30 Watts and Sultana (2004) review national career guidance policies in 37 countries based on the work undertaken by the OECD, the European Commission and the World Bank.

31 Initiative which results from the French Law of August 2007 on the 'Freedom and Responsibility of Universities' (*Loi relative à la liberté et aux responsabilités des universités*) to be in place in all universities by September 2008. See www.enseignementsup-recherche.gouv.fr/.

students so as to improve their tertiary-level study experience and, in particular, reduce drop-out rates in the initial years of tertiary education.

Another role of guidance services in tertiary education is to support the career development of students prior to their entry into the labour market. However, according to OECD (2004b), little attention seems to be paid to career development and choice, including helping students to develop career management and entrepreneurial skills and encouraging them to take up self-employment options. In some cases, closer co-operation between Education and Employment Ministries is needed to ensure that educational and occupational information are well integrated, and that a labour market perspective is offered in career guidance services provided at the school level. Another issue is that career services are often not targeted at the type of student (*e.g.* students at the risk of failure or changing their courses, mature students returning to school, distance learning students, international students).

Even if there is consensus to support career information and guidance in secondary and tertiary education, empirical evidence on its impact remain weak. In fact, there is little regular and systematic evaluation of the quality of career guidance provision in most countries.[32] Standards for provision do not exist or are present in some sectors but not in others; quality frameworks tend to be voluntary and often operate as guidelines; and there is a need to recognize that users have a key role to play in the evaluation process. Moreover, available data are more often of a quantitative rather than of a qualitative nature (*e.g.* number of users or success rate in job placements against indicators such as client satisfaction or an assessment of whether career decision making skills improved), pointing to the need of more empirical research in this area.

Towards greater institutional responsiveness

TEIs, through their responsiveness to labour market needs and students' preferences, are key in linking students' demand for programmes to labour market demand for graduates. Such responsiveness, some observers argue, is more characteristic of private institutions that rely chiefly upon private financing. As a result, some countries have strengthened the labour market orientation of their tertiary system by authorizing the entry of new private education and training providers. This has been a strategy mainly followed in East Asia (*e.g.* Korea and Japan), Latin America (*e.g.* Chile and Mexico), and the United States, among others.

Some countries, such as the United States and the United Kingdom, have chosen to allow the establishment of for-profit providers of career-oriented education, while elsewhere these new providers operate as private not-for-profit corporations. In Japan, the government has chosen to allow a new set of private institutions, Professional Training Colleges (*senmon gakko*) to enter the system in response to student demand for work-related competencies. Viewed in comparison to public and private universities, privately established Professional Training Colleges have greater autonomy vis-à-vis public authorities and stronger management, enabling them to act with comparatively greater responsiveness to market forces. Professional Training Colleges are subject to regulation by prefectural authorities and they receive operating subsidies from them. Additionally,

32 According to the literature review on career-related interventions in tertiary education undertaken by Bimrose *et al.* (2005), there is substantial research on different curricular and extra-curricular interventions influencing student´s learning, their progression and their career-decision making, but evidence on the efficacy of these interventions remains limited.

Professional Training Colleges are perceived by students to offer market-oriented skills, as distinct from university education that is theoretical and academic, and to provide reliable employment results (some, in fact, guarantee employment to all who complete courses). While offers of employment fell for university graduates in the 1990's, those for graduates from Professional Training Colleges remained robust. Thus, not only are these institutions attractive to secondary students, but also to students who drop out of university or junior college studies, university and junior college graduates, and tens of thousands of "double-schoolers" who are simultaneously enrolled in a university and at a Professional Training College (Goodman *et al.*, forthcoming).

Institutional responsiveness appears also to be characteristic of public institutions in systems where public authorities establish a policy framework - including admission policies and institutional funding methodologies - that are strongly oriented towards meeting student enrolment demand. In Belgium (Flemish Community) and the Netherlands, for example, institutions may not restrict enrolment; instead, students have the right to study on the course and at the institution of their choice, subject to quotas or *numerus clausus* in a small number of fields. Additionally, student numbers form a prominent basis for institutional financing. Hence, in these systems supply responds to effective demand among applicants.

Another way to accommodate student demand in response to perceived opportunities in the labour market is to align the courses offered by TEIs to the guarantee of a career opportunity. An illustration of this is the proliferation of "purpose-built" vocationally oriented degrees targeted at specific needs in the labour market in Australia, mainly in the professions and para-professions. This trend has also been evident in the expansion of degrees which combine distinct fields of study (*e.g.* Law/Arts, Engineering/Law, and Science/Engineering).

There are systems, however, where a lack of adjustment to student demand is noticeable. In the Spanish university sector, labour market demand doesn't seem to be a major factor in decisions on the number of entry places for most university courses. Large imbalances exist between study places and student demand across a number of subject areas (*e.g.* in health sciences, demand is three times greater than the number of study places, while in experimental sciences – where unemployment rates are high – thirty percent of entry places remain vacant).

Providing more flexible study conditions to a more diverse set of learners

As a way to accommodate student demand and respond to the needs of a more diverse set of learners, educational choices in tertiary education are expanding and the conditions in which programmes are offered are diversifying (see Chapters 3 and 6). An aspect is the flexibility to undertake tertiary studies. Even if greater opportunities for flexible studies are being created, provisions remain limited in many countries. For instance, in the Netherlands, little provision on a part-time or dual basis (15 and 1% of enrolled students, respectively) is offered by universities of applied science, contrary to what employers' associations have been demanding so work and learning can be better combined by a more diverse population of learners.[33]

33 Employers have also demanded that this sector of the Dutch tertiary education system focuses more on short-cycle degrees (two-years) so more individuals with intermediate qualifications, presently lacking, enter the labour force. As a result, short-cycle programmes were launched on a pilot basis since September 2006.

Also, making transfers across fields of study, faculties, and institutions more flexible would make it easier for students who realize they are in the wrong field of study to change study area, both reducing undesired mismatches and potentially allowing greater responsiveness to changing labour markets patterns. Although progress has been made in many countries, rigidities persist. For example, in Korea, although the education system is quite inflexible and students normally have to reapply to be admitted in a different study field, the *Hakbu* system, by integrating two or more departments into a major field has widened choices to students. Rather than applying for specific subjects, students apply to enter university departments and after experiencing a broad range of subjects, they select their majors in their second year according to their preferences. In other countries, such as Croatia, the current structure of universities with independent faculties is relatively inflexible, and inhibits change across faculties. In this sense, the change to integrated universities is perceived as an essential element in enabling greater adaptability to facilitate change between, as well as within, faculties (see Chapter 3, Section 3.5.3).

Moreover, the growing importance of lifelong learning also requires a response from TEIs to accommodate lifelong learners. Whereas in some countries lifelong learning offerings of tertiary institutions are well developed and the system responds suitably to the needs of adult learners this is not the case in others. In New Zealand many institutions supply training for company employees and the supply of continuing education is spread across the tertiary sector. The opportunities for adults to undertake tertiary education after an experience in the labour market are also facilitated by provisions to allow attendance on the basis of a person's assessed competencies and the access to the student support system. Over the last five years, half of the enrolment growth has been attributable to the increased enrolments of people over 40 years of age. By contrast, in other countries, lifelong learning offerings have not traditionally been the focus of tertiary institutions and are underdeveloped (see Chapter 3, Section 3.5.1).

9.4.2 Steering by public authorities

Shaping the environment of student and institutional choice

Rather than administratively establishing the number and composition of study places, public officials can instead aim to align tertiary institutions to labour markets by shaping student and institutional choices. This may be done by:

- Steering through information: encouraging students to select high-demand fields of study by providing them with information about labour market outcomes of graduates.
- Targeted funding for institutional provision: increasing or decreasing the public funding of certain targeted disciplines, so as to encourage their provision by institutions.
- Preferential pricing and financing: inducing students to select certain fields of study by selectively lowering tuition prices (relative to other fields), or by providing preferential terms of financing to graduates in certain study fields, such as loan forgiveness or loan subsidies.

Steering through information

Examples of steering student demand through information can be found in Chile, Mexico and Portugal. In Chile, the Ministry of Education lacks authority, either through regulation or spending caps, to establish student numbers. Instead, authority to set student numbers rests exclusively with institutions. Lacking direct control over student numbers or enrolments by field, the Ministry has responded by developing an innovative information strategy with which to inform student demand, the Graduate Employment Observatory. Similar initiatives have been launched in Mexico and Portugal (see Box 9.1).

Box 9.1. Information on labour market outcomes in Chile, Mexico and Portugal

Chile: The Graduate Employment Observatory

In Chile, the Ministry of Education developed in 2003 the Graduate Employment Observatory (*Observatorio del Empleo de Graduados de Educación Superior*) and a website (www.Futurolaboral.cl) to provide prospective and current students with information about labour market outcomes of recent graduates, by field of study.

In 2006 the website had over 300 thousand visits, three times more than in 2003. The information provided is collected annually from tax data (with strict rules to guarantee confidentiality) and is based on around 94% of the graduates. By providing transparency with respect to wage and employment outcomes for different courses and careers, this website appears to have influenced the application and study preferences of prospective students. Since its introduction there has been a decline of enrolments in areas which used to have high enrolments and were associated with professions with falling wages, such as journalism, psychology, commercial engineering and architecture. In fact, these have been the degree courses for which the incomes of the cohorts graduating in 2000 and in 2001 have fallen compared to the 1998 cohort.

Mexico: The Labour Market Observatory

In Mexico, the Ministry of Labour launched in 2005 the Labour Market Observatory (*Observatorio Laboral*), an internet platform (www.observatoriolaboral.gob.mx) providing information on labour market trends for a wide range of occupations and professions. The main sources of information are the National Employment Service and the National Education System registers, especially those related to higher education enrolments and graduation and the quarterly data obtained from the National Employment and Occupation Survey.

The Observatory contains a variety of indicators at both national and state level for the last ten years. For a given occupation/profession, indicators include graduates by gender, proportion of graduates in employment, proportion in employment in area of graduate competence, average salary at different stages of career, level of position, status of employment (*i.e.* part-time or not, whether in self-employment), or employment growth rates.

Between March and December 2005, the labour market observatory website received 601 000 visits. A survey among 2 269 observatory users concluded that 23% of them were lower secondary students 45% upper secondary students, and 32% tertiary undergraduate students.

The Labour Observatory represents a key tool in matching the supply of educational programmes by institutions to the demand for programmes by students. It informs students about the labour market, the kinds of jobs available, and the forms of preparation for these jobs. It also informs institutions about potential labour market needs.

Portugal: Statistics on recent graduates and graduate job seekers

Since the Autumn 2007, the statistical services of the Ministry of Science, Technology and Higher Education publish bi-annually (September and February) reports on the demand for employment of higher education graduates registered at the national employment centres (*i.e.* unemployed graduates looking for the first or a new job). This information is available both by higher education programme and institution (www.estatisticas.gpeari.mctes.pt). In addition, under the new Portuguese Legal Regime for Higher Education (October 2007), institutions are required to collect and publish annual information on the employment/career experiences of their graduates up to five years after graduation

Targeted funding for institutional provision

Another way to align tertiary institutions to labour markets by shaping student and institutional choices is through targeted funding for institutional provision. In Australia, for example, since 2001 there has been a slight decline in the participation of national students in tertiary education with student's enrolment having moderately increased due to international student enrolment. That is why since 2003 the Australian Government has tried to address this low participation by introducing new supported student places in specific areas. The Australian Government addresses skill shortages by influencing the supply of graduates through the allocation of new higher education places. In recent allocations, the focus has been on aligning the new places to the identified skills needs of the workforce, including teaching, nursing, medicine and engineering. The Australian Government has also committed to provide funding for additional new university places in nursing and early childhood education to help address skills shortages in these fields.

Preferential pricing and financing

Public authorities may also aim to steer students towards fields of study in which employer demand is greatest, through preferential pricing and financing systems (*i.e.* tuition prices or student grants). In Australia, student contributions (tuition fees) in national priority fields (*e.g.* nursing and education) were capped or reduced to promote student enrolments and participation in tertiary education. In the Netherlands, the government has tried to stimulate young people to enter teacher education programmes through the provision of extra financing for students in that field, who otherwise are not eligible for students grants and loans. Moreover, additional funds have been provided to TEIs for the development of teacher education programmes.

Some countries use their student support systems to provide special incentives in specific fields of study (see Chapter 4 for more detail). New Zealand, for example, gives special consideration to grant applicants whose field of study is early childhood education, in recognition of the need to raise the number of graduates in this area. In the United Kingdom (Wales), preferential loan terms or repayment conditions are made available to graduates in areas of labour market shortage (*e.g.* teaching shortage in some subjects in primary and secondary education). In the United States, preferential repayment conditions on student loans are frequently offered by federal agencies or state governments to induce enrolment in public service professions with shortages (*e.g.* nursing and teaching).[34]

Rationing and regulation

Although the rationing of study places through *numerus clausus* is often based on the purpose of controlling or better managing public expenditure, public officials may also attempt through rationing, to link tertiary provision to labour markets by controlling the number and type of study places made available. If study places are publicly funded, officials may limit the total number of study places by setting enrolment caps, or less directly, by setting funding caps. The allocation of study places among different courses or fields may be achieved through the review and approval of new courses (or, the closure of courses), or the authorisation of new institutions.

[34] See, for example, www.hrsa.gov/help/healthprofessions.htm.

In Finland, for example, a forecast of labour market needs, adjusted to reflect policy targets of the government, provides the basis for a national Development Plan for Education and Research, a document that provides a framework for education supply. The Development Plan provides the framework within which negotiations between the Ministry of Education and individual TEIs take place.[35] Because all tertiary study places are provided by state-funded public institutions in Finland, all undergraduate study places in tertiary institutions are, in effect, administratively allocated according to this forecast of labour market needs in consultation with all the stakeholders involved. In fact, although there is an important ministerial steering this is done with the feedback and the information provided by the polytechnics/universities, employer and employees organisations and a number of advisory bodies set up by the government.

In Spain enrolments in the vocational sector of tertiary education are not allocated by central authorities. Rather, each of the autonomous regions establishes the number of entry places for each vocational course with a view to meeting the requirements of the labour market in that region.

In rare instances, public authorities may also exercise detailed control over enrolments and programme offerings in private tertiary institutions. In Portugal, for example, private institutions are required to request permission from the Ministry of Science, Technology and Higher Education before launching any new degree or changing their study programmes. The Ministry also sets enrolment parameters by determining the *numerus clausus* for every study programme offered by private universities.

More common is a pattern where rationing by public officials takes place within a set of public institutions or, where dual financing exists, in the publicly funded seats at public institutions. Alongside this, private institutions operate, as well as privately-funded seats at public institutions. Such is the case in the Russian Federation and Poland, for example. In the Russian Federation, public officials can increase the number of publicly-funded study places open to students in fields the government deems to be strategically important such as engineering and transportation-related fields, while reducing publicly-funded study places in areas such as economics, law and political science. Those unable to gain publicly-funded study places in these fields may seek privately-financed study places in public institutions or in private TEIs, the enrolment of which is concentrated almost exclusively in either business studies or social sciences. However, such policies may have unintended outcomes. Some school leavers target publicly-funded places in a given institution even if not in their preferred field of study with the expectation of transferring to it at a later stage.

Experience indicates that a supply-driven rationing of study places by public authorities appears to meet with three types of difficulties. First, public authorities may lack the administrative information and management controls over study places that are necessary to engage in effective rationing. Alternatively (or, additionally), they may lack accurate and detailed data about graduate labour market conditions that is needed to engage in an allocation of resources that is well-adapted to labour market conditions.

35 The targets for each TEI are agreed between the Ministry of Education and the polytechnic/university in a performance agreement, on the basis of which the TEI determines the intake for each study field. The performance agreement is concluded for a three-year period and certain parts of it are reviewed every year. The current agreement period is 2007-2009. The next Development Plan will set targets for 2012 and will stress regional targets.

Second, the administrative allocation of study places according to a forecast of labour market demand – as distinct from student demand – may result in a mismatch of student preferences and the supply of study places that lead to serious distortions in behaviour and inefficiencies. For some decades Finland has experienced a university "matriculation backlog": only about one-third of applicants to university are admitted to their most preferred field of study immediately after completing secondary studies. Many prospective students who are not admitted to their preferred course queue for repeated annual efforts to gain entry to highly selective fields, or they choose to enter less competitive study fields, and transfer to their preferred course after enrolment. Elsewhere the application of *numerus clausus* to study fields – particularly in graduate and professional fields, such as medicine, has given rise to cross-border movements of students who seek to gain entry into their preferred field of study in neighbouring states, or in offshore private providers developed specifically to capture surplus demand.

Finally, authorities may choose to "lead" student demand, on the assumption that they are better able to anticipate future labour market needs than students, or they may opt to discount student demand, on the grounds that their judgments about critical areas of national need ought to substitute the enrolment preferences of students. As Ryoo and Rosen (2004) note, public authorities may often have no better information about labour market conditions, current or future, than labour market participants themselves.[36] In addition, attempts to steer enrolments towards fields of "national need" that contradict wage signals appear often to end in failure – *i.e.* in an oversupply of graduates that leads them to seek employment opportunities in other countries, or careers in fields other than those for which they were trained.

Creating study opportunities with greater orientation towards working life

Many countries have created vocationally-oriented institutions to fill what they perceived to be an insufficient orientation towards working life in tertiary education. The aim is that these institutions develop closer ties with labour markets, with an improved response to their needs. Where they have been established, they typically operate in a legal or regulatory setting that enforces a strict division of labour between them and universities (a "binary line") within which vocationally-oriented institutions are assigned a mission, governance structure, funding system, and degree-awarding authority different to that of universities. In general, these institutions are characterised by:

- providing professional and higher vocational education through study programmes of short to moderate duration (rather than long university courses);
- offering courses that have a more practice-oriented and less theoretical orientation, often with a work placement;
- undertaking applied (as distinct from basic) research;
- incorporating employer or regional input into governance;
- operating with some element of local financing.

36 Reinhardt (2002) notes that public health professionals' efforts to forecast and plan workforce needs are marked by "a century of failure." For example, great uncertainty surrounding the progress of medical and organizational technology can result in "huge forecasting errors."

This is the case of the education offered by, for instance, polytechnic institutions. Tertiary systems with legally-recognised public polytechnic sectors include Finland, Germany, the Netherlands, Portugal and Switzerland, among others.[37] In these countries, students enrolled in such institutions vary from almost one in two in Finland to one in four in Germany. The case of the Netherlands and its *hogescholen*, universities of applied science, is illustrated in Box 9.2. In other countries, this division is less clear cut, and tertiary studies more vocationally-oriented are less popular among students and even in some cases still suffer from a lack of parity of esteem relative to university or more academic programmes (See Chapter 3).

Box 9.2. Universities of applied science in the Netherlands

One highly developed model of a public binary system is that of the Netherlands, in which one-third of tertiary students are enrolled in publicly funded research-intensive universities and two-thirds are enrolled in universities of applied science, (*hogescholen*). Dutch universities of applied science have multifaceted connections to working life – in their pedagogy and instructional staff; through employer participation in their supervisory boards; and in advisory relationships between employers and *hogescholen* that extend from the development of programmes to their quality assurance.

Local employers often sit in the governing bodies of these universities of applied science, and national sectoral organisations may be consulted in the development of study domain competencies. Quality assessment panels are required to have employers from the related field of work as panel participants. Instructors are professionals drawn from working life. Ideally, their instructors remain professionally engaged throughout their teaching careers, providing a bridge between working life and classroom instruction.

All courses have one or more traineeship, thus students experience part of their learning in a work-based setting. Graduate labour market outcomes are closely monitored by the *Arbeidsmarkt Monitor* (labour market monitor), a publication that has since 1993 reported on the employment and wages of graduates from these institutions.

9.4.3 The role of other actors in tertiary education

While the broad framework of tertiary education's connection to labour markets is shaped chiefly by student demand and the steering by public officials, the content of education and training (*i.e.* curriculum, pedagogy, staff numbers and qualifications, and facilities) and, indirectly, the skills and capacities of graduates, result principally from decisions taken by different actors ranging from academic faculties, professional associations, disciplinary organisations or learned societies, and industry associations representing common lines of work or sectors.

The mix of these institutions varies across OECD countries, and this variation results in pronounced differences in pedagogy (*e.g.* integration with workplace-based learning), in curriculum (*e.g.* the level of skill specificity), and matching between graduate skills and the demands of working life. The role of these institutions is briefly reviewed below, in order to discuss their implications for the alignment of graduate skills and abilities to labour markets.

However, comparisons across countries must be made with care, since tertiary systems can be highly differentiated across countries according to their history, their cultural tradition and the different role played by social partners, as well as within a country (indeed, large differences in pedagogy, curriculum and engagement in working

37 Even within binary systems, university institutions may offer courses of study that are highly vocational in nature, and maintain close connections to employers and professional associations. This is especially true of specialist universities, such as agricultural or technical universities.

life may exist with a large and comprehensive variety between one faculty or programme and another).

In some countries, curriculum, pedagogy, staff profiles, and facilities – and, indirectly, the skills and capabilities of graduates - are shaped almost exclusively by faculties and disciplinary organisations, while labour market participants, such as industry associations and work-based professional associations exercise a comparatively modest role. This is the case in countries where tertiary systems are led by universities of a strongly Humboldtian orientation, and in which industry associations and work-based professional associations are weakly established. Under such circumstances, there is typically a low level of circulation between university-based researchers and research-intensive private firms; a preference for comparatively long, specialised, and theoretical courses of study over those that are vocational or professional in outlook; and a disinclination to engage in work-based learning.

By contrast, in other countries (or for specific institutions and study programmes within a country), the balance among these stakeholders is reflected in a much stronger labour market orientation in curriculum and pedagogy.

Professional associations

Professional bodies play a leading role in defining and controlling access to regulated or licensed professions, such as engineering, architecture, medicine, law, pharmacy, and accountancy. Professionals may be trained as apprentices, in a work-based setting, and examined and licensed by the profession itself; or, training and examination may be embedded in tertiary institutions, either at the under-graduate or post-graduate level of study.

If professional training is embedded in institutions, professional associations may exercise extensive influence over the content of curriculum, pedagogy, staff numbers and qualifications, and facilities through their role in the accreditation of professional programmes and the recognition of a graduate's right to practice their profession. Additionally, professional bodies may play a prominent public role monitoring whether tertiary education systems are responding to the needs of their profession, both with respect to the supply of graduates, and the training and skills they possess, and advocacy for policy changes.

There has been a long-term shift from instruction based upon mentorship and professional practice and externally-administered examinations (set by professional associations) to professional education based in tertiary institutions, and accredited or approved by professional bodies.[38] The relationship between professional communities and tertiary education remains highly dynamic. Mature professions continue to shift to university-based instruction, as is the case with legal training in Japan, and newly-established lines of work based upon new services and technologies (such as tourism

38 In the 19th century universities in the United Kingdom were unwilling to offer courses in library studies, thus the British Library independently offered courses and qualifying examinations. In the 1940's British further education colleges and polytechnics began to offer library courses, and in 1964 the British Library Association ceded its role in providing instruction and examinations to tertiary-based library schools, and became an accrediting body. The (US) American Library Association (ALA) was formed one year later than the British Library Association, but never acted as a qualifying association setting its own examinations. Rather, in the United States large public libraries and universities swiftly established librarian training and examinations, and the ALA acted as an accrediting body (Rochester, 1994).

management, computer game design, or supply chain management) seek to achieve professional recognition, often in newer universities or vocationally-oriented institutions which are closer to working life.

The extent of professional association influence over tertiary-based education and training appears to vary widely across countries. Broadly speaking, where economies have labour markets which are chiefly firm-based (or "internal"), as in East Asia, the influence of professional associations appears to be comparatively modest, while the opposite is true in economies where labour markets are principally occupational (Ohkusa *et al.*, 1997; Lazear and Oyer, 2004). Economies that have (or, are) undergone (undergoing) a transition from planned economies to market economies, such as Croatia, the Czech Republic, Hungary, Poland, or the Russian Federation, appear to be shifting progressively from internal to occupationally-based labour markets (Gabor, 1998).

Faculties and disciplinary associations

In many tertiary education systems about half or more of all graduates complete courses that do not lead for entry into a regulated or licensed profession, either because they have studied a course that is career-oriented but not linked to any single profession (*e.g.* business studies, media studies), or they have enrolled in fields of study that are academic rather than professional in nature, such as physics, philosophy, sociology, literature, mathematics, history, or linguistics. For these graduates, the requirements of study and the competencies they develop are shaped chiefly by faculties themselves, or by disciplinary associations, and are often shaped with little regard to working life.

Industry groups and employer associations: towards partnerships with TEIs

Industry groups representing common lines or branches of work play a widely varying role in shaping the content of education and training in OECD countries. In some countries there are highly developed sectoral organizations that are financed on a compulsory basis and highly integrated into the country's education and training system. Elsewhere, particularly in transition economies, those that have undergone a recent transition from planning to markets, public officials struggle to identify, engage, and collaborate with effective sectoral organisations.

In the countries reviewed the collaboration between industry groups, employers associations and TEIs is uneven and can take very different forms. It can range from involvement in policy design, in design of curricula and its implementation, in direct participation in the educational provision (*e.g.* through agreements or partnerships to promote internships/traineeships for students, recruitment of teaching staff) or the direct involvement of TEIs in innovation for the production process. For example, some countries have developed formal structures to promote communication and collaboration between TEIs and industry groups and employers associations on a permanent basis (*e.g.* Australia with the Business, Industry and Higher Education Collaboration Council and the Business and Higher Education Round Table) (see Chapter 3).

By contrast, other countries have no strong tradition of involvement of employers in TEIs. For example, in the Russian Federation, Ministry officials are seeking to develop much closer links between the tertiary education system and the labour market, aiming to engage the latter in the formulation of study requirements for graduates. In that sense, leading companies have created so-called "basic or host chairs" in Russian TEIs, which seek to promote the targeted professional training of students. However, one obstacle on

the path to creating modern mechanisms of interaction between education and the labour market, in the Russian Federation as well as many other countries, is the lack of development of groups of employers with the same work profile, and their lack of tradition in engaging in partnerships with TEIs.

In Mexico and in Poland, businesses, professions, and labour unions are neither very involved in the formulation of national tertiary education policies and inputs from industry and employers seem to be limited. In both cases, there seems to be no forum at national level at which representatives of business and industry might contribute to the development of tertiary education policy, because there is little tradition of the active involvement of industry in the daily activities of institutions. Nevertheless in Mexico, the formal participation of employers and representatives of industry as external members of institutions' governing bodies is a phenomenon in essence limited to technological universities and some technological institutes and polytechnic universities. In fact, institutions which are part of the technology subsystems (*i.e*. technological institutes, technological universities, polytechnic universities) provide among the best examples of partnerships with industry, requiring students to undertake internships in companies, having programmes practice-oriented, and having programme content informed by advisory groups where employers are included.

In general, the involvement of industry and employers' associations both in the design of tertiary curricula and in tertiary education provision is more often found in vocational programmes than in more academic study fields. For example, in the Netherlands, sectoral organizations provide a comprehensive and expert foundation for industry-tertiary collaboration, and are extensively engaged in the development of new qualifications, mainly in Dutch universities of applied science (*hogesholen*).[39]

In Sweden, the advanced vocational education system provides a good example of the involvement of employers and businesses in tertiary education provision (see Box 9.3).

Box 9.3. Advanced Vocational Education (AVE) in Sweden

In Sweden, Advanced Vocational Education (AVE, *Kvalificerad yrkesutbildning*) is a form of vocational postsecondary education designed and carried out in close co-operation between enterprises and course providers, which can be TEIs, upper-secondary schools, municipal adult education institutes or companies. It has not resulted into a separate institutional sector.

The major objective of AVE is to train staff with qualifications in areas needed for the labour market. Programmes are to provide advanced theoretical and practical knowledge and skills required to work independently and in cooperation with others in today's modern workplaces. Courses are to be characterised by theoretical depth as well as links with the workplace. One third of the programme is to be spent at a workplace. The courses are open both to those who have recently finished upper secondary school and to people who are already employed and wish to develop their skills within a specific area. The education period varies between 1 and 3 years. A course consisting of 40 weeks or more will result in an AVE degree.

An AVE programme can be initiated by employers with, for example, a sectoral organisation or an enterprise applying to the Swedish Agency for AVE to start a programme. It can also be initiated in cooperation between an

39 There are 130 sectoral organisations that spend about 3 billion euros per year on education and training in the Netherlands. These funds are financed through a tax on their gross payroll, and used to develop new courses for employees, to pay for employee training, to conduct research on labour markets, and to implement new work practices in their lines of business. These expenditures support education and training ranging from secondary education for young people to lifelong learning for mature workers; however, they do not support full time study in tertiary institutions, since this is the responsibility of public spending.

educational organisation, such as a TEI, and a municipality or an educational enterprise with the required competence. Irrespective of who initiated the programme, a prerequisite is that there is a real need on the labour market, and that employers take an active part. What constitutes need is assessed by the Swedish Agency for AVE, on the basis of statistical data, contacts with employer organisations, and other forms of input. Also, providers must be able to prove that there is a real labour market demand for their courses. Another distinguishing feature of AVE is its flexibility. Programmes are created, changed, or discounted, depending on the development of the relevant commercial area. The existence of the programme is therefore reviewed on a regular basis, and employer interest and the results and quality of the programmes determine whether programmes continue.

It also promotes equality of opportunities. According to the Swedish Agency for AVE, the broad range of programmes offered, the possibilities to receive study grants and loans from the state student aid system, as well as the defined focus and relatively short duration of studies give adults the possibility for further studies. Also, the AVE Agency gives priority to courses that counteract gender stereotypes in educational choice.

For more information: www.ky.se

Source: The Swedish Agency for Advanced Vocational Education.

In New Zealand, individual TEIs are required to work closely with their region's businesses, professional associations, industry training organisations, and local authorities to identify skill needs and respond to the future shape of the regional and national workforce. The Tertiary Education Commission administers specialised funds designed to foster greater engagement between TEIs and businesses, with the aim of meeting skill needs. For example, it has funded projects designed to increase the relevance of provision including secondments from industry ('experts in residence'), student work placements, and business involvement in course development through the polytechnics' Business Links Fund, or has developed the *Partnerships for Excellence* initiative to increase private-sector investment in tertiary education and foster better linkages between TEIs, industry and business (see Box 7.2 in Chapter 7).

In France, the new Law on Universities also intends to reinforce the links between TEIs, the regions and local stakeholders.[40] It provides for the participation of two representatives of the local stakeholders in the governing body of each university (*conseil d'administration*). It also offers tax incentives to foster the investment by entrepreneurs and firms in tertiary education, through the development of new foundations within universities ("*fondations universitaires" or "fondations partenariales*").

Promoting students' internships/traineeships through partnerships between businesses and TEIs is likely to strengthen ties between the two sectors but is mostly an effective way to facilitate the transition into the labour market.[41] Also, facilitating teachers to move from TEIs to industry (and vice versa) grants a means through which knowledge on mutual needs is acquired. These arrangements are however more often found in private institutions or in vocationally-oriented institutions.

Some countries have tried to emulate the well-known German system of apprenticeships and work-based learning, but have faced difficulties such as little motivation from firms, a lack of tradition of tripartite planning necessary to create high-quality internships, and educational cultures hostile to corporate participation. For

40 French Law of August 2007 on the 'Freedom and Responsibility of Universities' (*Loi relative à la liberté et aux responsabilités des universités*).

41 According to the results of the REFLEX survey, internships do not affect significantly tertiary graduates competences, but instead they facilitate a smooth transition into the labour market (Allen and van der Velden, forthcoming).

example in Korea, traditional university values are not always compatible with entrepreneurial activities; academics have few incentives to be involved in partnerships; and large corporations with their own research facilities do not always feel the need to co-operate with TEIs.

Another way to strengthen the links between TEIs and the business sector is through synergies between research and innovation and the production process itself (see Chapter 7). For example, in Korea, "joint degree programmes" between universities and corporations have recently been developed, involving academics and students to spend time at industry research institutes.

9.4.4 National qualifications frameworks and quality assurance systems

Developing a national qualifications and credentials system is another recognised way to connect labour market needs and tertiary education supply. The existence of a national qualifications framework facilitates the articulation between the demands of employers, the expectations of students, and the offerings of tertiary institutions. Such a framework has the potential to bring together the skill needs of employers, the design of tertiary programmes to prepare students with these skills, and the information about the competencies needed for given occupations.

Recent transformations in the labour market, the expansion and diversification of post-compulsory education as well as a move towards more demand-driven education are among the main reasons that have contributed to the growing interest in national qualification frameworks (Young, 2007 and OECD, 2007c). National qualification frameworks have also emerged to make more transparent an increasingly complex provision of qualifications (Coles, 2006). Yet, they intend to go beyond a simple classification and become the basis for strategic planning of education and training, meeting labour market needs and structuring opportunities for individuals to enter and progress in their careers. Their implementation is not an easy task, however, as they require the establishment of dedicated agencies to manage, monitor and evaluate the functioning of the system and respond to evolving qualifications.

Many countries have national qualifications framework in place, although their use and effectiveness varies across countries. Even if there is not much empirical evidence of the impact of qualifications systems in tertiary education, the performance of a qualifications system may be assessed along some dimensions such as its accessibility, efficiency, flexibility, responsiveness and transparency (OECD, 2007c).

In practice, qualifications frameworks may not succeed in co-ordinating the expectations of all participants if there is no consensus on priorities among the different stakeholders involved. In that sense, the involvement of employers and their support of qualification systems are critical. Good examples of national qualifications frameworks where tripartite planning councils - including employer representatives, trade unions and governments - jointly plan licensing exams are found in Austria, Denmark and Germany.

In the United Kingdom there have been a number of attempts (NVQs, GNVQs, Foundation degrees) to update the prior system, but having failed to include employers actively in their design, the qualifications frameworks have not been used effectively (Grubb and Lazerson, 2004). In fact, employers through Sector Skills Councils (SSCs) draw up National Occupational Standards and should be well placed to describe the competencies needed in a particular occupation, but the complexity of the system and the large number of bodies involved in qualification design has made it difficult for

employers to influence the process in practice.[42] However, reforms have been recently launched to simplify the qualification system in order to make qualifications more easily understood and valued by employers. In that sense, a new Commission for Employers and Skills, reporting to government, will start operating in early 2008 to strengthen the collective voice of employers and better articulate their views on skills. Also, the continued development of Foundation degrees - which integrate academic study with work-based learning offering practical, accessible options for employers and workforce alike – is a major approach to meeting employers' needs and has been supported by the government as a key vehicle to tertiary education expansion.[43]

In a national qualifications framework, degrees are further distinguished in terms of the knowledge and skills required. For example, in the Australian Qualifications Framework an associate degree is expected to include the fundamental underpinnings of one or more disciplines, including understanding and interpretation of key concepts and theories, as well as the development of skills in comprehending and evaluating information from a range of sources; this requirement operates to prevent the associate degree from being only practice-oriented. In turn, a bachelor's degree should lead to the acquisition of a systematic and coherent body of knowledge, and to the skills needed to undertake research.

Quality assurance systems also play a role in strengthening the ties between the labour market and TEIs as they seek to ensure that TEIs are fulfilling their mission with quality outcomes. They increasingly involve labour market actors not only in defining quality criteria but also in assessment panels (see Chapter 5).[44]

9.5 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. The relationship between tertiary education and the labour market is a highly complex

42 The Leitch Report highlighted the complexity of the qualification system and the need for reform (Leitch, 2006). Over 22 000 qualifications were reported in the United Kingdom, and too many of these, particularly at lower levels, were found to be little valued both by employers and by individuals, contributing to constraining investment in skills.

43 Foundation degrees were launched in 2002 as a new qualification equivalent to Level 5 within the National Qualifications Framework and they represent the type of flexible demand-led tertiary education provision called for in the Leitch Report. According to the Higher Education Funding Council for England, in 2006-2007, over 60 000 students were estimated to be registered in these programmes, having succeeded in attracting people who wouldn't normally have considered taking up tertiary education.

44 As stated in Chapter 5, quality assurance systems are broadly defined as the "process of establishing stakeholder confidence that provision (input, process and outcomes) fulfils expectations or measures up to threshold minimum requirements."

one, and it remains one of the least consensual areas of tertiary education policy. Nonetheless, the discussion attempts to distil potentially useful ideas and lessons from the experiences of countries that have been searching for better ways to strengthen the ties between tertiary education and labour markets. Some common themes are evident in the country reforms now underway, namely that better co-ordination between labour market and education policies is needed, career guidance and information about labour market outcomes of graduates are instrumental in aligning students' preferences and labour market needs, institutions ought to build capacity to respond to labour demand, educational provision with labour market orientation needs to be enhanced, and labour market actors are to be given a stronger voice in tertiary education systems.

Coordinate labour market and education policies

Education Ministries are typically established to finance and regulate TEIs, and their work activity continues to focus on the activities of institutions that provide tertiary education. Responsibility for labour market institutions, employment, and worker training rests elsewhere, in Ministries of Labour, as do expertise and data analysis.

The analysis of tertiary education and labour markets for the countries reviewed consistently points to a low level of integration between these two complementary policy domains, and links this to the inadequate attention devoted to labour market concerns, such as the provision of lifelong learning opportunities and flexible study options, and to the inadequacy of data and analysis with respect to graduate labour market outcomes.

Two decades ago OECD member countries began to develop institutional arrangements aimed at integrating science, technology and innovation policy at the cabinet level, and it appears that these arrangements have been successful in this purpose, and widely emulated. It is proposed that governments consider similar arrangements with respect to the integration of education, training, and employment, through the institution of a cabinet-level committee for human capital (or, "human capabilities").

Improve data and analysis about graduate labour market outcomes

In most of the countries in the Review there is an insufficiency of data and analysis with respect to graduate labour market outcomes, a shortcoming that impairs students' responsiveness to labour market signals, the capacity of public officials to adapt resource allocation to labour market needs, and the ability of tertiary institutions to systematically learn about and respond to labour markets. It is suggested, therefore, that consideration be given to greater investment in data collection with respect to labour market outcomes.

If students are to respond to labour market signals when making enrolment choices, students need information about wages and employment among recent graduates that is: *(i)* easily accessible and frequently updated; *(ii)* disaggregated to the level of study field; *(iii)* able to reveal the variability in wages and employment across TEIs. For a given field of study, indicators could include graduate numbers by gender, the proportion of graduates in employment, the proportion in employment within the area covered by the programme, average salary at different stages of career, grade or promotion level distributions, status of employment (*e.g.* full-time, part-time or unemployed, whether in self-employment) and employment growth rates. This could be complemented by the requirement that institutions conduct graduate surveys. However, care is needed not to excessively add to the administrative burden placed on TEIs.

Better data and analysis is equally necessary in systems that rely heavily upon central or regional authorities to allocate study places, since they must be able to accurately assess current labour market conditions (*e.g.* labour force participation rates, unemployment rates, working hours, and vacancy rates) to evaluate how to allocate additional resources across fields of study.

Public data systems should also permit the tracking of long-term graduate labour market outcomes, so that institutions and public officials can understand not only wages and unemployment spells immediately after graduation, but also the longer-term experiences of graduates, including career mobility, occupational change, job mismatch and over-education.

The performance of institutions with respect to labour market outcomes is also valuable for quality assurance systems to go beyond academic criteria. This would go along with including people who bring questions of working life and employability to bear in the deliberations of quality assurance agencies (such as key members of professional associations, chief technology officers of research-intensive firms, and those who play significant roles in the recruitment and hiring of tertiary education graduates).

Strengthen career services at secondary and tertiary educational levels

Career information needs to be not only produced but also well disseminated. In this respect it is important to ensure that career guidance in secondary schools and career placement services in tertiary institutions make good use of data on educational alternatives and labour market outcomes. Systems of tertiary education can greatly benefit from the strengthening of career services at the secondary and tertiary educational levels. Students need to be informed about the labour market, the kinds of jobs available, and the types of educational preparation needed for those jobs. This helps students make well-informed decisions about their fields of tertiary study.

It is essential to ensure that career guidance in both secondary schools and TEIs is effective in using the information available, that it is adequately staffed and undertaken by individuals with the appropriate training. The establishment of a national or regional-level Career Services office can be instrumental in: *(i)* ensuring the co-ordination between education and labour authorities and different levels of government for career guidance purposes; *(ii)* establishing links between career guidance at secondary and tertiary levels; and *(iii)* providing professional development assistance to career advisors and supporting career education programmes. Finally, it is suggested that the impact of career guidance be monitored and evaluated periodically.

Reinforce the capacity of institutions to respond to labour demand

The availability of information and career guidance services are good steps to ensure that tertiary education is responsive to labour market needs, but are not sufficient. If the two are to be satisfactorily linked, the funding methodologies established by public authorities must create incentives for institutions to respond to student demand, and tertiary institutions must have the capacity to reallocate resources internally in response to students' preferences. The first of these conditions appears to be widely achieved: approaches to public funding consistently use student numbers as a criterion in the allocation of teaching funds to tertiary institutions. The second, the capacity of institutions to reallocate resources, is less fully developed.

In some tertiary systems institutional leaders lack the capacity to shift instructional capacity to fields of high labour demand, and bottlenecks develop. This may be especially likely to occur, for example, in institutions where its individual faculties are legally or effectively independent of the wider institution in their operation. While public officials may be free to establish funding methodologies that promote institutional responsiveness to demand, the capacity of institutions to respond to demand is something that is less immediately amenable to the direction of public officials. Nonetheless, public officials can devise management information systems that generate evidence of institutional performance in meeting enrolment demand (*e.g.* student queues for course entry), and encourage the development of institutional governance and management arrangements that allow for efficiency in the allocation of resources.

Enhance provision with a labour market orientation

As regards steering and planning, an approach that stresses the diversity of educational offerings in the system, relies on student demand and avoids the danger of micro management appears best suited to deal with the challenges of the labour market. Such a strategy would build on the existence of ample choice in the system to meet a variety of student and labour market needs.

Along these lines, in some tertiary systems, it would seem important to expand opportunities for flexible, work-oriented study. Tertiary institutions have long experience and often great competence at transmitting discipline-based knowledge and training young people in the development of scientific capabilities. However, they might be less familiar with – or adapted to – the use of work-based learning to develop professional skills. Public officials should support the diversification of study opportunities, so that both bachelor's degree programmes oriented toward working life and short-cycle practice-oriented programmes are sufficiently available; and they should strengthen the capacities of institutions charged with their provision (especially the vocational sector) so that the quality of qualifications is widely recognised by students and employers alike.

Enhancing the labour market orientation of tertiary level programmes with close and continuing engagement of employers and professional associations can be achieved in a number of ways: *(i)* by establishing public institutions with a strong labour market orientation (*e.g.* polytechnics); *(ii)* by expanding vocationally-oriented programmes in public institutions which are part of unitary systems; or *(iii)* by authorising the entry of vocationally-oriented private education and training providers into the tertiary system. Many countries have created more vocationally-oriented institutions to fill what they perceived to be an insufficient orientation towards working life in university-based education. But, to a great extent, the success of this approach greatly depends on policies to prevent 'academic drift' in vocational institutions. In unitary systems, it might be best to develop the labour market orientation of institutions by promoting competition between institutions, steering the system with funding schemes which reward the labour market orientation of programmes, and encouraging partnerships between institutions and employers.

However, the development of vocationally-oriented programmes need to consider not only the job-specific skills needed for success upon entry into a given profession but also the more general competences which are necessary, for example, to improve practice, develop professionally and adapt if a change of activity takes place (*e.g.* learning to learn).

Include labour market perspectives and actors in policy development and institutional governance

Another generic way in which the national policy framework can contribute to the alignment of tertiary education practice and labour markets is through steering and governance systems. Educational authorities could involve labour market actors (*e.g.* businesses, professions, labour unions) in the formulation of tertiary education policies through their inclusion in bodies that provide advice and analysis to policy makers. If this dialogue is to be effective, it needs to be ensured that labour market actors develop an active interest in participating in the dialogue, and that the views of the latter are valued and properly taken into account in the formulation of policies. Educational authorities should also include in deliberative and advisory bodies those within government who bear responsibility for employment and skills policies, since they bring different perspectives and competencies to the choices that need to be made in tertiary education policy.

Additionally, public authorities should seek to widen the participation of labour market actors (*e.g.* representatives of firms, not-for-profit organisations, professions, or public sector entities such as directors of schools or hospitals) in the bodies responsible for the strategic governance of TEIs, and not merely in bodies confined to an advisory role. The direct involvement of labour market actors in TEIs has the potential to improve the responsiveness of institutions to labour market needs. A complementary initiative is to encourage tertiary institutions to engage employers, both public and private, in the design of programmes and even the assessment of students through, for instance, their involvement in councils or committees for curriculum development within institutions. This would be particularly important in vocational sectors.

Encourage tertiary education institutions to play a greater role in lifelong learning

In most countries tertiary education needs to enhance its role in the renewal and improvement of the skills of those already in the labour force. TEIs should widen opportunities for lifelong learning by increasing the flexibility of provision (*e.g.* part-time and distance provision) and designing education and training alternatives tailored at the needs of employers and given industries. This could be complemented by policy initiatives which grant financial support to address the difficulties facing low-income workers and a framework which allows TEIs to raise revenues from these activities.

The participation of TEIs in lifelong learning can be seen in the broader context of strengthening the partnerships with the business sector. Practices to be sustained and systematic across the tertiary education system include internships for students and teachers in industry, offices in TEIs to liaise with the business sector, and the participation of employers in the daily activities of institutions (including governance and curriculum development).

Explore the potential of a National Qualifications Framework

A formal qualifications framework has the potential to be the reference instrument to co-ordinate the demands of employers, the expectations of students, and the offerings of institutions. The promises of a well-functioning qualifications framework are many: employers can specify competencies for employment; educational institutions can design programmes to develop these competencies in students; and students know what competencies they need in order to become employable. A well-functioning qualifications

framework also makes transfers among fields of study, and among institutions, more flexible. This allows students who realise they are in the wrong field of study to change, both reducing these kinds of mismatches and potentially allowing greater responsiveness to changing labour market patterns. It also has the potential to assist the assessment and recognition of prior learning. However, it needs to be recognised that designing effective national qualifications frameworks involves great complexities with the risk that it may not provide clear signals to students, institutions and employers.

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10. Internationalisation: Shaping Strategies in the National Context

10.1 Introduction

Internationalisation features among the key transformations of tertiary education provision in developed industrial countries since the late 1980s – alongside the massification of participation. Despite signs of international student and academic mobility in medieval European universities, which was facilitated by the common use of Latin (Scott, 2000), international activities have in more recent times long been bound to research. Teaching and learning remained essentially national, both in terms of student populations as well as in terms of provision. The national oversight of tertiary education found its expression in a long tradition of State-funded tertiary education institutions (TEIs) in many OECD countries.

The process of internationalisation of tertiary education has accelerated over the past two decades, both in response to and in conjunction with the broader process of globalisation, leading to some confusion in terminology and concepts. This first section therefore starts with a clarification of definitions and reviews the reasons why interest in internationalisation has soared in recent years, and why internationalisation matters for tertiary education policy. An examination of the different forms that internationalisation takes then follows.

10.1.1 What is internationalisation and why does it matter?

Definitions: internationalisation vs. globalisation

The two concepts of internationalisation and globalisation are often used interchangeably to reflect education-related cross-border activities. Yet, Knight (2001) argues that it is necessary to distinguish the meaning of these terms in discussions of the tertiary education sector.

The process of globalisation can be defined as "the widening, deepening and speeding up of worldwide interconnectedness" (Held *et al.*, 1999) and the emergence over the last three decades of "complex electronically networked relations between institutions and between people, creating an open information environment and synchronous communications in real time" (Marginson, 2004). As a result of economic, technological and knowledge advances, countries and people are increasingly integrated irrespective of national boundaries, although Knight (1997) indicates that globalisation affects each country in a different way due to a nation's individual history, traditions, culture and priorities.

By contrast, the process of internationalisation relates to "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of tertiary education" (Knight, 2003). According to Knight (2001), "the key element in

internationalisation is the notion of the relationship between or among nations and cultural identities, thereby implying that nation-state and culture are preserved". While the homogenisation of culture is often cited as a critical concern or effect of globalisation (Scott, 1998), internationalisation – by respecting and helping to preserve nation-states – is therefore seen as a very different concept.

These two concepts are however linked to the extent that the process of internationalisation of tertiary education cannot be interpreted independently of the parallel process of globalisation in the economic and social sphere. As put by Knight (2001), "one can think of globalisation as the catalyst, but of internationalisation as the response, albeit a proactive response".

Growing interest in internationalisation

The issue of internationalisation of tertiary education – and by extension the range of policies designed to monitor and steer internationalisation trends – have received growing interest in recent years. Several trends have prompted this interest.

First of all, the process of globalisation in the economic sphere has translated in the education sphere into growing demands for an international dimension of education and training. Indeed, as world economies become increasingly inter-connected, international skills have grown in importance to operate on a global scale. Globally-oriented firms seek internationally-competent workers versed in foreign languages and mastering basic inter-cultural skills to successfully interact with international partners. Governments as well as individuals are looking to tertiary education to play a role in broadening the horizons of students.

In addition, the rapid acceleration in global economic integration over the past fifteen years has translated into a growing internationalisation of the labour market for the highly skilled. This has in turn led to a globalisation of some professions and made global or internationally recognised qualifications increasingly important, especially in the areas that are needed by trans-national corporations and the business community at large (Bennell and Pierce, 2003; Peace Lenn and Campos, 1997).

The internationalisation of the labour market for the highly skilled is also connected to the increasing demand for tertiary educated workers for the new economy. OECD employers will increasingly need to look abroad for talent as new graduates will become insufficient to replace staff going into retirement. Internationalisation can be seen as part of a longer term skill development strategy through the attraction of international students with a view to subsequent immigration for some of them.

Demographic trends have also triggered interest in internationalisation by TEIs. In many OECD countries, the transition from elite to mass participation in tertiary education since the 1980s has resulted in unprecedented expansion in tertiary education provision – often by increasing recourse to private providers. Yet, some of these countries now face decreases in domestic enrolments. Internationalisation is increasingly seen as a way to compensate for this decrease and ensure the viability of some TEIs. By contrast, many smaller and/or less developed nations – especially in China and South-East Asia – face the opposite situation of growing demand for tertiary education. Confronted with a rapid expansion in their youth populations and bottlenecks in tertiary education provision, they tend to see internationalisation as a cost-effective alternative to national provision, and as a way to increase capacity.

The match between the insufficient capacity of emerging nations and the oversupply of some OECD tertiary education systems has been facilitated by the trend towards deregulation of tertiary education in many OECD countries, which permitted the emergence of new forms of educational offerings, including distance learning and cross-border operations of TEIs.

Lastly, the emergence and rapid expansion of tertiary education export industries in some OECD countries has heightened awareness on the trade value of internationalisation from a macroeconomic perspective. The difficult international negotiations on education services' trade liberalisation reflect this acknowledgement that the long term trend towards greater internationalisation of education (Figure 10.1) is having a growing impact on countries' balances of payments (OECD, 2004).

Why does it matter?

Over the past two decades, tertiary education and intercultural skills have grown in importance. In this context, there is a growing demand from students and employers alike for tertiary qualifications that have a strong international component – both from the perspective of the curriculum content and exposure to different cultures that helps develop intercultural skills and competencies.

At the national level, internationalisation also matters, insofar as it allows countries to maintain or improve their economic performance and relative standing, and to achieve a number of social goals. Internationalisation contributes to the efficiency of tertiary education systems in research – and by extension, to the national innovation capacity – as a result of externalities in knowledge production. Academic exchanges allow for a faster circulation and dissemination of research results produced elsewhere and provide a significant impetus to research and innovation that would not occur in isolation. Another advantage derives from the increased opportunities for cost-sharing that arise when bringing together expertise from several research settings. Internationalisation can also serve the third mission of TEIs, through its contribution to multiculturalism and the development of cross-cultural awareness. This impact is strongest for those directly involved in student exchange – mobile students and academics – but the broader student population may enhance its cross-cultural awareness through the presence of international students on campuses or the increasing international content of tertiary programmes.

Beyond the tertiary education sector, internationalisation also contributes to building strong links between countries whose nationals are involved in student exchange. Internationalisation may thus bring significant economic, trade and diplomatic benefits as former international students are likely to keep privileged relationships with their countries of study throughout their lives and careers.

10.1.2 The different forms of internationalisation

Although student and academic mobility are clearly one of the most observable expressions of internationalisation, they do not constitute its unique expression. The process of internationalisation manifests itself in a variety of ways, and there is often no agreement on what internationalisation means in practice. Illustrating this confusion, lengthy discussions took place in one of the countries taking part in the Review to assess whether internationalisation relates to teaching courses in a foreign language, having a large population of international students and faculty, or delivering programmes whose quality is on par with international standards. Knight (2004) acknowledges that

internationalisation is interpreted and used in different ways in different countries and by different stakeholders, and advocates the use of the terms 'international, intercultural and global' in the definition of internationalisation to reflect its breadth:

> *International is used in the sense of relationships between and among nations, cultures or countries. (…) Internationalisation is also about relating to the diversity of cultures that exists within countries, communities, and institutions, and so intercultural is used to address aspects of internationalisation at home. Finally, global (…) provides the sense of worldwide scope.*

As a matter of fact, internationalisation covers the full spectrum of educational programmes and activities that contribute to internationalised learning, ranging from the internationalisation of programmes' content and delivery to the mobility of students and scholars, notwithstanding intermediate forms of trans-national education such as the cross-border mobility of TEIs and/or their programmes. Another major form of internationalisation relates to the growing convergence of tertiary education systems.

Convergence of tertiary education systems and international recognition arrangements

The most prominent form of internationalisation from the perspective of public policy relates to reforms undertaken in many countries over the past decade to enhance the transparency and inter-operability of their tertiary education systems, either through the convergence and streamlining of their national degree structures or the convergence of instruments to translate and recognise credits and qualifications earned elsewhere.

This convergence phenomenon has been most evident in the European setting where the Bologna declaration of 29 European ministers of education in June 1999 stated as a key objective for Europe to establish a *European Higher Education Area* (EHEA) by 2010, and in particular to enhance the comparability and compatibility of higher education structures and degrees in Europe in order to increase the employability of European citizens and the competitiveness and attractiveness of European tertiary education (Bologna Secretariat, 1999). The Bologna declaration proposed to adopt a system of easily readable and comparable degrees based on a common two-cycle degree structure. A third degree was added to this structure at the Berlin Ministerial meeting in 2003 to include doctorate degrees, resulting in a three-degree structure often referred to as Bachelor-Master-Doctorate (BMD) structure.

The Bologna Process is far-reaching, insofar as a number of countries outside the EU have endorsed the Bologna declaration and joined its convergence process since 1999. Participants in the Bologna Process now reach 46 countries spread geographically between Iceland, Portugal, Turkey and the Russian Federation. This convergence of degree structures beyond EU borders highlights the compatibility and convergence trends that are currently taking place at the international level. Indeed, not only does the Bologna Process extend beyond the EU borders, but several authors have also noted the resemblances between the Bologna degree structure and the American model (Douglass, 2006; Tapper and Palfreyman, 2005). Bologna developments are also closely monitored in Australia, Africa and Latin America. Similarly, the post-war US influence in Korea coupled with the increase in joint programmes and degrees with foreign TEIs are expected to enhance the international compatibility of the Korean degree structure.

With respect to recognition instruments, the establishment of credit transfer schemes allowing students to validate study credits obtained elsewhere – including in other countries – constitutes a systematic way of describing educational programmes by

attaching credits to their components, on the basis of different parameters such as student workload or learning outcomes.

A major development in this area has been the Bologna declaration that engaged signatory countries to establish systems of credit compatible with the European Credit Transfer and Accumulation System (ECTS) 'as a proper means of promoting the most widespread student mobility' (Bologna Secretariat, 1999). Indeed, the Bologna Process aims at establishing pan-European transparency tools, in which the ECTS is to play a crucial role. The European Credit Transfer and Accumulation System is a student-centred system based on the student workload required to achieve the objectives of a programme in terms of the learning outcomes and competences to be acquired[45].

Meanwhile, the Diploma Supplement was developed as a follow-up tool for the implementation of the Lisbon Recognition Convention (Council of Europe, 2005). It is a document attached to each tertiary education diploma which provides a description of the nature, level, context, content and status of the studies that were successfully completed by the graduate. The Diploma Supplement is intended to enhance transparency and to facilitate academic and professional recognition of tertiary qualifications[46].

These developments also extend beyond the European area. Douglass (2006) notes the parallel between the ECTS and the American degree standards and matriculation system. In addition, the association for *University Mobility in Asia and the Pacific* (UMAP[47]) has taken steps to pilot a UMAP Credit Transfer Scheme (UCTS) based on the ECTS model in the Asia-Pacific region (Mongkhonvanit and Emery, 2003). Countries eligible to UMAP membership include Australia, Chile, China, Japan, Korea, New Zealand and the Russian Federation among participants in the Review, as well as Canada, the United States, Hong-Kong and Malaysia among other significant players in international education. Therefore, the influence of ECTS and UCTS on other countries' practices is likely to increase in the future – through enhanced compatibility between credit transfer schemes or mere adoption of the European or Asia-Pacific schemes. The Diploma Supplement also extends beyond Europe and is being piloted in Australia.

45 The ECTS has been developed as part of the EU Erasmus programme for co-operation in higher education, and is now part of the integrated EU Lifelong Learning Programme 2007–2013.

It is based on the principle that 60 credits measure the workload of a full-time student during one academic year hence one credit usually stands for around 25 to 30 working hours. Credits in ECTS are obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. The ECTS Users' Guide which provides guidance on the use of ECTS is currently being revised to respond to the request of the Ministers from the 46 countries participating in the EHEA that ECTS be implemented properly on the basis of learning outcomes and student workload.

46 The Diploma supplement was developed jointly by the Council of Europe, UNESCO and the European Commission to implement the Lisbon Recognition Convention. The Convention is legally binding for all parties that have ratified or accessed it. As the Convention and its subsidiary texts, the Diploma Supplement is fundamental to ensure quality procedures for the recognition of higher education qualifications. It came into force in 1999.

47 UMAP is an association of government and non-government representatives of the higher education sector in the Asia-Pacific region.

Internationalisation of programmes' content and delivery

Another form of internationalisation consists in incorporating intercultural and international dimensions in the curriculum, teaching, research and extracurricular activities of TEIs to help students develop international and intercultural skills without ever leaving their country (OECD, 2004). This form of internationalisation – focusing on programmes' content and delivery – is often referred to as 'internationalisation at home', an expression that was developed in reaction to the growing emphasis on student and academic mobility, to bring attention to those aspects of internationalisation which happen on a domestic campus (Wachter, 2003). From a policy perspective, this aspect is critical to develop internationally-competent citizens insofar as the overwhelming majority of tertiary students do not participate in more direct cross-cultural education experiences such as international mobility. In 2003, only 4% of OECD tertiary students were enrolled abroad, highlighting the need for home-based international exposure and training (OECD, 2005a).

A key component of internationalisation at home relates to the internationalisation of the curriculum (Bennell and Pierce, 2003), and is most commonly adopted through the 'infusion approach', which consists in infusing the entire undergraduate curriculum with a sense of the international and global (Tonkin and Edwards, 1981).

While some authors acknowledge the growing importance of curriculum internationalisation to face the challenges of globalisation and increasing competition in tertiary education (Huang, 2006), efforts towards internationalising tertiary curricula have encountered critics and resistances within the academic world. In particular, some have expressed worries that the global competition for students could push towards a uniform market-driven curriculum – the McUniversity – which would spread mono-cultural and Anglo-centric views as if they were universal (Ryan, 2000; Parker and Jary, 1995). In addition, De Vita and Case (2003) criticise the infusion approach on the grounds that it builds upon an exclusively cognitive western learning philosophy – emphasising summative knowledge outcomes over more formative and reflexive processes. But in their view, the main drawback of international curriculum probably lies in the fact that it only provides partial exposure to international and intercultural differences through passive class-based learning, instead of active participation in cross-cultural interactions (De Vita and Case, 2003).

There are, however, ways to overcome the absence of direct intercultural interactions that characterise infused international curriculum. Making campuses and faculties more cosmopolitan can enhance intercultural interactions with foreigners, and in fact Japan publicly subsidises international enrolments to assist the internationalisation of its domestic students (Marginson, 2007). Nevertheless, international students' surveys suggest that interactions with domestic students are not always as intensive as could be hoped, with international students more likely to mix with co-nationals or other international students (Deumert *et al.*, 2005; UK Council for International Education, 2006).

In addition to curriculum internationalisation and intercultural interactions on campus, Wachter (2003) argues that internationalisation at home should also integrate a foreign language component, as a communication tool to enable graduates to communicate across borders.

People mobility

The third – highly visible – form of internationalisation corresponds to the mobility of individuals across borders. In many nations, international mobility is a key policy theme, either from the perspective of sending nationals abroad or in some countries from the perspective of attracting foreigners as students, R&D workers, or even as potential skilled immigrants.

International student mobility can take many forms, from enrolment in a different country for a full-degree programme to enrolment in language programmes aimed at foreigners that do not strictly correspond to traditional programmes offered to domestic students. A significant part of student mobility also occurs as part of multilateral programmes such as the Erasmus and Nordplus programmes in Europe and in the Nordic and Baltic states respectively[48]. Increasingly, student mobility also takes place through inter-institutional agreements for short-term exchanges or entire study programmes designed in cooperation between partner TEIs – sometimes leading to double or joint degrees. Although all these forms of mobility are relevant to the process of internationalisation at the institutional level, it should be borne in mind that only the first one – namely the mobility of students who enrol regularly in another country for a full academic year – is included in international data such as those published by the OECD (2007a) and presented in the remainder of this chapter.

Academic staff and researchers also cross borders and contribute to the process of internationalisation, through short term visits for professional development, sabbatical leave or regular employment in a foreign country for extended periods of time (OECD, 2004). These movements are important to build lasting scientific relations and contacts with TEIs in other countries. In addition, staff mobility sometimes happen in relation to programme mobility, for instance when an academic travels abroad to teach a course from their TEI in a branch campus or through an exchange programme.

The mobility of individuals across borders provides for more direct intercultural interactions with locals in the host country, and more intense international experience from the perspective of participants. In acknowledgement of this, several OECD governments – especially so in the European Union (EU) – have set up schemes and policies to promote such mobility to foster intercultural contacts and help to build social networks for the future.

Institution and programme mobility

Lastly, new forms of internationalisation have emerged over the past 15 years, characterised by the mobility across borders of TEIs or their programmes. These forms of international delivery – which are often referred to as trans-national education – correspond to education activities in which the learners are located in a country different from the one where the awarding TEI is based (van der Wende, 2001). Several arrangements exist under the broad category of institution and programme mobility, as described by van der Wende (1999), Benell and Pierce (2003) and OECD (2004).

48 The Erasmus programme was established in 1987 by the European Commission and forms a major part of the European Union Lifelong Learning Programme 2007–2013. Its aim is to encourage and support academic mobility of higher education students and teachers within the EU, the EEA, as well as candidate countries and Switzerland. Likewise, the Nordplus programme supports academic mobility, networks and joint projects between Nordic and Baltic states.

The mobility of educational programmes encompasses distance education courses offered by a TEI located abroad, joint courses or programmes offered in partnership between a local provider and a foreign TEI, or franchised courses or programmes whereby foreign TEIs franchise a local provider to offer their degrees, sometimes without involvement of staff from the home TEI.

The mobility of TEIs corresponds to foreign direct investment by TEIs or companies. The most accomplished forms of institution mobility are the opening of foreign campuses by universities and/or commercial providers or the establishment of a distinctly new TEI, but it may also involve participation in the capital of foreign TEIs, or partnerships with local TEIs, especially when government regulations forbid full control of TEIs by foreign capital.

Each of these means of delivery can exist alone, but trans-national education often involves more than one. Indeed, programme and institution mobility are actually rarely experienced in a pure form (*i.e.* one without the other) and more often go together, hence their grouping throughout this chapter.

Programme and institution mobility is also often linked to people mobility: through academic staff mobility to teach in foreign campuses, or various partnership arrangements between TEIs located in different countries that involve the mobility of students between TEIs. For instance, twinning arrangements are a growing phenomenon in which students complete the first years of the programme in their own country before completing their degree abroad at the partner TEI. Foundation link courses constitute similar arrangements in which students take courses in their own countries to be directly recruited to degree courses at partner TEIs abroad (Benell and Pierce, 2003). These new forms of internationalisation – through foreign campuses and other kinds of deeper international engagement – are often used by TEIs as platforms for other activities such as marketing, international student recruitment, research collaboration, and establishment of research links.

10.2 Trends in internationalisation of tertiary education

All forms of internationalisation have developed and grown in importance over the past three decades. Student mobility is an important and relatively well documented aspect of this growth, but other forms of internationalisation have also gained momentum.

10.2.1 Student and academics' mobility

Student mobility

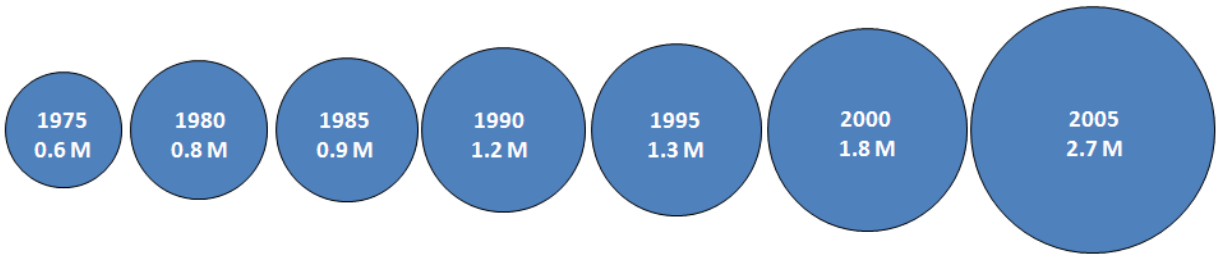
International student mobility[49] has increased tremendously over the past three decades, from 0.6 million students worldwide in 1975 to 2.7 million in 2005 (Figure 10.1).

49 The data presented in this chapter and drawing upon *Education at a Glance* (OECD, 2007a) cover only mobility for a degree programme – *i.e.* in which international students formally enrol in their country of destination. Short-term mobility and exchanges are not included.

Ideally, international student mobility is deemed to measure students who have crossed borders for the purpose of study. According to country-specific immigration legislations, mobility arrangements and data availability constraints, these international students can be defined in operational terms either as

Figure 10.1. Three decades of growth in student mobility

Growth in the number of students enrolled outside their country of citizenship (1975-2005)



Source: OECD (2007a).

Trends indicate an acceleration of this growth in recent years – with a doubling of foreign students since 1995 – mirroring the growing globalisation of economies and societies. This exponential growth is projected to continue in the future. Indeed, market research forecasts international student mobility to reach approximately 5.8 millions around 2020 (Böhm *et al.*, 2004) and 8 millions by 2025 (Altbach and Bassett, 2004).

The growth in international student mobility is significant per se, but also when put in the perspective of the corresponding growth in tertiary enrolments. In OECD countries, numbers of foreign students rose much faster than total numbers of tertiary students between 2000 and 2005, by 49% for the former against 21% for the latter (OECD, 2007b). Tertiary campuses have thus become more cosmopolitan thereby intensifying the intercultural aspect of internationalisation at home in host countries.

Nonetheless, this overall growth in international student mobility has affected countries differently. While the bulk of student mobility is still directed towards the OECD area, some new players on the international education market have emerged within and outside the OECD in the past few years, as illustrated by changes in market shares (Figure 10.2). These changes reflect different emphases of internationalisation policies across countries, ranging from proactive marketing policies in the Asia-Pacific region to a more passive approach in the traditionally dominant United States.

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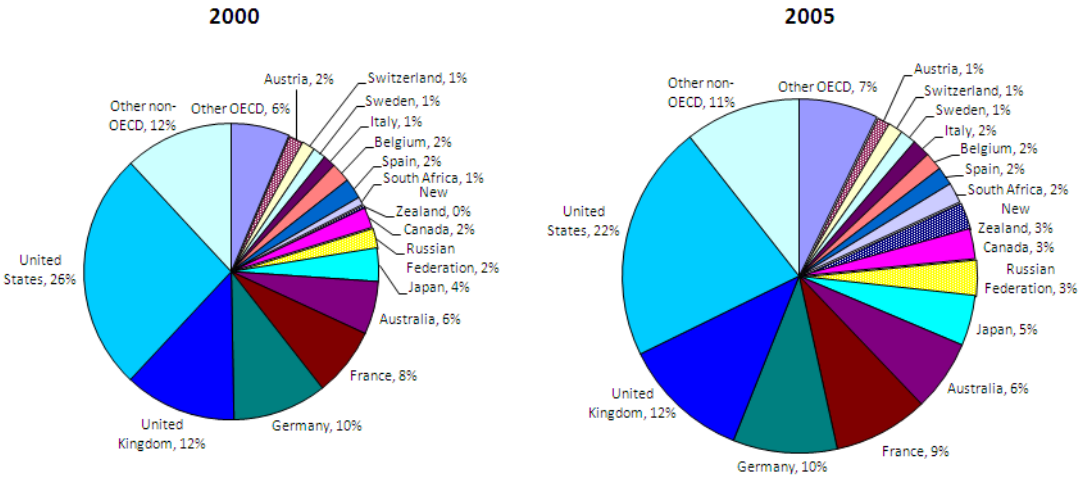
students who are not permanent residents of their country of study or alternatively as students who obtained their prior education in a different country (Kelo, Teichler and Wächter, 2005).

However, long term time series following this concept are not yet available hence all trend data presented in this chapter are based upon the concept of foreign student, which is an imperfect proxy of student mobility insofar as it includes some immigrant foreigners who have arrived to their country of study before entering tertiary education. These foreign students are not true participants in international mobility, which results in overestimation of student mobility in countries with low naturalisation rates of their immigrants.

By contrast, 2005 data are generally based on the concept of student mobility described above, with the exception of a few countries which are not yet able to report data on student mobility and submit data on foreign students. The convention adopted throughout this chapter is to use the terminology 'international student' when referring to student mobility while the terminology 'foreign student' relates to the imperfect proxy of non-citizens.

Figure 10.2. Destinations of international students over time: changes in market shares (2000, 2005)



Source: OECD (2007a).

While Sakellaris and Spilimbergo noted in 2000 that the share of foreign students going to the United States had remained constant between 1965 and 1993 – at about 33% – the past decade has seen quite a different evolution. Australia, Canada, France, Japan, the Netherlands, New Zealand, the Russian Federation and South Africa have gained momentum on the international market for tertiary education. By contrast other destinations have lost ground in relative terms, most notably the United States but also Belgium, Chile, Germany, Spain, Switzerland and the United Kingdom (OECD, 2007a). Australia might shortly join this second group due to a flattening of demand from new international enrolees.

The proportion of international students in tertiary enrolments highlights Australia, Belgium[50], France, New Zealand, Switzerland and the United Kingdom as having the most cosmopolitan campuses among the participants in the Review, with more than one out of ten international students among enrolees in 2005. In contrast, international students represent less than 3% of tertiary students in Chile, Finland, Greece, Japan, Korea, Norway, Poland, the Russian Federation, Slovenia and Spain (OECD, 2007a).

Countries also show different levels of intensity in the outward mobility of their nationals. Greece, Iceland and Norway were the biggest senders of students abroad in 2003, with a student expatriate population equivalent to more than 7% of their tertiary enrolments. Belgium, Finland, New Zealand[51], Portugal, Sweden and Switzerland also had substantial proportions of students enrolled abroad, at more than 3% of domestic enrolments (OECD, 2005a).

50 In the case of Belgium, the data include immigrant foreigners and might be overestimated.

51 In the case of New Zealand, this pattern also partly reflects the large proportion of the population living in Australia on a long-term basis.

Academics mobility

By contrast with student mobility which is fairly well documented, data are scarce when it comes to the international mobility of academic staff. The situation is further complicated by the multiple forms of academic mobility, from short-term moves of a few days/weeks to longer movements of over one year.

With respect to long-term mobility and employment abroad, the extent to which such mobility is permitted by the national policy framework provides a first indication of the extent of long-term international academics mobility in different countries. Table 10.1 indicates in this respect that most countries taking part in the Review allow the recruitment of international academic staff to work in their TEIs. This is indeed the case with no restrictions in Belgium (Fl. community), Chile, Croatia, the Czech Republic, Estonia, Finland, Greece, Japan, Korea, New Zealand, Norway, Poland, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom. In addition, the Netherlands leave this option to the discretion of TEIs while China consents to the recruitment of international staff in fields of study where shortages exist.

But this official openness to the recruitment of foreign nationals translates differently across countries in terms of actual mobility. Some participants in the Review report high levels of incoming movements – proxied by the proportion of foreign nationals in the academic staff of their TEIs. This is for instance the case in Switzerland where a third of academics are foreigners, the Netherlands (25% in the research universities), the United Kingdom (17%) or New Zealand. By contrast, the incoming mobility of academics is reportedly low in Finland as well as in the HBO sector of the Netherlands and in Korea (2%). Mora (2004) also deplores that the internationalisation of academic staff is extremely limited in Spanish universities while Musselin (2004) sees it as more accidental than anything else in the European context. Jacobs and van der Ploeg (2006) argue that in much of Europe the market for lecturers and professors is closed to outsiders, although the United Kingdom, Scandinavia and the Netherlands have more open recruitment.

However, trends suggest that this form of long-term incoming mobility has increased in Korea in recent years as a result of universities' proactive invitations to professors from abroad. Similarly, TEIs in New Zealand are increasingly seeking to develop research contacts with TEIs abroad through hosting foreign academics. The internationalisation of faculties is often the result of individual TEIs' proactive policies. For instance, the *New University of Lisbon*'s faculty of economics has 96% foreigners among assistant professors, but this remains untypical of the general Portuguese situation.

Conversely, a number of countries allow their tenured academic staff to work in TEIs abroad for a temporary expatriation while guaranteeing their position for a given period. This is the case in China, the Czech Republic, Estonia, Finland, Korea, Mexico, New Zealand, Poland, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom. Croatia, Greece and Portugal also permit the temporary expatriation of academic staff within the framework of sabbatical leaves while this is left to the discretion of TEIs in Belgium (Fl. community), the Netherlands and Norway (Table 10.1).

Table 10.1 **Forms of internationalisation permitted by the national policy framework, 2007**

	Delivery of educational programmes in foreign languages	Recruitment of foreign academic staff to work in domestic TEIs	Temporary expatriation of domestic tenured academic staff to work in TEIs abroad	Establishment of campuses owned by foreign TEIs on the national territory	Establishment of campuses abroad by domestic TEIs	Establishment of joint programmes/degrees with foreign TEIs
Australia[1]	No	No	No	Yes (subject to accreditation)	Yes (subject to approval for some TEIs[2])	Yes (subject to approval for some TEIs[2])
Belgium (Flemish Community)	Yes (master programmes)	Yes	At the discretion of TEIs	Yes (subject to accreditation)	Yes (subject to accreditation and being self-supporting)	Yes
Chile	No	Yes	No	No (but participation of foreign capital in domestic private TEIs[3] is permitted)	No	No
China	No	Yes (in fields with staff shortages)	Yes	Yes (joint ownership by Chinese and foreign TEIs, subject to accreditation)	No	No
Croatia	Yes	Yes	Yes (sabbatical leaves)	Yes	No	Yes
Czech Republic	Yes	Yes	Yes	Yes	Yes	Yes
Estonia	Yes	Yes	Yes	No	No (for public TEIs)	Yes
Finland	Yes	Yes	Yes	Yes	Yes	Yes
Greece	Yes (post-graduate programmes)	Yes	Yes (sabbatical leaves and internat. exchange programmes)	No	No	Yes
Iceland	Yes	*m*	*m*	*m*	*m*	Yes
Japan	Yes	Yes	No	Yes	Yes (subject to restrictions)	Yes
Korea	Yes	Yes	Yes	Yes (Jeju Island, Free Economic Zones)	Yes (subject to restrictions on ownership of foreign premises)	Yes (subject to delivery of the programme in a domestic TEI)
Mexico	At the discretion of TEIs	No	Yes	Yes	Yes	Yes
Netherlands	At the discretion of TEIs	At the discretion of TEIs	At the discretion of TEIs	Yes	At the discretion of TEIs (subject to being self-supported and qualifications not recognised)	At the discretion of TEIs
New Zealand	Yes	Yes	Yes	Yes (subject to accreditation)	Yes (subject to accreditation)	Yes
Norway	Yes	Yes	At the discretion of TEIs	Yes (qualifications not necessarily recognised)	Yes (not covered by Norwegian quality assurance unless exception)	Yes
Poland	Yes	Yes	Yes	Yes (subject to restrictions[4])	Yes (subject to government approval)	Yes
Portugal	Yes	Yes	Yes (sabbatical leaves)	Yes	Yes	Yes
Russian Federation	Yes	Yes	Yes	Yes	Yes	Yes (double degrees)
Spain[1]	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	Yes	Yes	Yes	Yes (subject to accreditation to award recognised degrees)	Yes	Yes (no joint degrees)
Switzerland	At the discretion of TEIs	Yes	Yes	Yes	No	Yes
United Kingdom	No	Yes	Yes	Yet (qualifications not necessarily recognised)	Yes	Yes

Notes: *a* : Information not applicable because the category does not apply; *m* : Information not available; *TEI* : Tertiary education institution.
1. Information concerns universities only and does not account for the non-university sector.
2. Non self-accrediting TEIs require approval from Australian government accreditation authorities to offer Australian qualifications overseas. From the beginning of 2008, offshore delivery of Australian higher education qualifications will be assessed as part of the regular quality audit processes that apply to each type of TEI.
3. The same licensing requirements as domestic TEIs must be fulfilled.
4. The restrictions will be indicated in a specific regulation.

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.

Reported trends suggest however that the number of academics and researchers going abroad for long study periods has declined in recent years in some countries, for instance in Finland and Sweden. An exception is New Zealand where TEIs increasingly send their staff on sabbatical leave to develop research contacts. Marginson and van der Wende (2007a) also note that there is no clear increase in longer term academic migration, with the exception of mobility to the United States. Moreover, this type of academic mobility is essentially limited to the S&T fields.

In most countries, the main internationalisation of faculty is comprised by short-term leave, exchange visits and research collaborations (Enders and de Weert, 2004), and the proportion of teachers involved in exchanges for short stays abroad is considerably larger than it is for longer periods. Yet, data in this area are even more limited, with the exception of organised mobility schemes such as Erasmus in the EU area and the Nordplus programme among Nordic and Baltic countries. These data show that the duration of these stays is comparatively short – at 6.2 days on average (European Commission, 2007) – while the proportion of tertiary staff involved varies between countries participating in the Review, from a low 1.1% in the United Kingdom to as high as 5.6% in Spain in 2005. Mobility tend to be highest in Belgium, the Czech Republic, Estonia, Iceland, and most importantly Spain and Finland (Table 10.2).

Table 10.2 Teacher mobility under the EU Socrates programme

Percentage of academic staff involved (2005)

	Incoming	Outgoing
Belgium	3.2	3.4
Czech Republic	3.0	5.0
Estonia	2.6	3.9
Finland	6.5	5.3
France	1.7	1.5
Greece	2.3	1.5
Iceland	2.6	3.0
Netherlands	1.2	1.5
Poland	1.1	1.5
Portugal	2.6	1.6
Spain	4.9	5.6
Sweden	1.5	1.4
United Kingdom	1.1	1.1

Source: Calculations based on OECD (2007b) and European Commission (2007).

Underlying factors in student/academics' mobility

The growth in international student and academic mobility stems from various driving factors. Students and academics move across countries for a number of reasons, which have to do with the perceived quality of a foreign educational (or academic) experience, the value of this international experience on the labour market, the general attractiveness of the intellectual, cultural and political climate in the country of destination, and in the case of students, the ease of access to tertiary education abroad, including costs and the language of instruction. Yet, the issue of what drives students to pursue their education in

a different country in the first place, and then choose a specific destination is complex, and has not generated much systematic empirical research and analysis (Lee *et al.*, 2006). Partial information is however available in the case of student mobility, and helps identify the most salient underlying factors.

For instance, Kim (1998) has tested the importance of various explanatory factors on aggregate student mobility flows over time to elucidate international students' choice of a country of study. His results suggest that similar language and religion of the host country are important. Distance by contrast tends to dissuade international students – although Kim notes a fading effect of distance over time as transportation costs have fallen – while political stability became more important in recent years.

In a different fashion, Kemp *et al.* (1998) have used individual data to explore, in a marketing perspective, the study abroad intentions and preferred destinations of Indonesian and Taiwanese students. Their results show that the likelihood to study abroad is higher for males and respondents who can count on family support to finance their studies. The decision to study abroad is also enhanced by the perception that an overseas qualification is superior to domestic qualifications, or when there is a perceived need to better understand Western culture. With respect to the choice of destination, their results are consistent with those of Kim (1998), and underline the positive impact of a safe environment, geographic proximity and the presence of a network of friends and relatives in the country of study. Other prominent factors include the educational reputation of the programmes and the availability of information on their content.

Although these empirical studies only provide partial evidence of the complex mix or inter-mingled factors affecting students' mobility decisions and choices of destinations, they enable the identification of key variables. These mirror related literature on migration determinants. This similarity has led Altbach (2004) to borrow the framework of push and pull factors to migration economics in order to describe the forces within the home country that "push" individuals to study overseas, and the forces within the host country that "pull" them.

Bottlenecks in domestic provision and absence of some specialisations

Among push factors, Altbach (2004) notes capacity constraints in sending countries or the absence of some specialisations as important drivers of international mobility, compelling students to go abroad in order to obtain a tertiary qualification unavailable or un-accessible domestically. Bottlenecks in domestic provision can indeed make entry into tertiary education highly competitive, and it is sometimes easier for students to gain entry in TEIs abroad. Huang (2006) describes the impact of such bottlenecks in China while Kemp *et al.* (1998) highlight the quantitative importance of these factors in Indonesia and Taiwan. At the aggregate level, Cummings (1984) shows that excess demand for domestic tertiary education affects aggregate student enrolments abroad in the Asian context. But this phenomenon also explains student mobility within the OECD, where countries facing capacity constraints (*e.g.* Greece, Luxembourg) display high levels of outward student mobility (OECD, 2005a; OECD, 2007c). Outward mobility is also high in smaller education systems (*e.g.* Iceland, Ireland, Norway) which are unable to provide the full range of tertiary specialisations that their students might have interest in.

Financing of tertiary education in the country of origin and impact of tuition fees in alternate destinations

Related to capacity constraints in the sending country, is the way tertiary education is being financed in the country of origin of international students. Indeed, families have less incentive in investing large sums to support study abroad for their children if good quality education is available at home free of cost or nearly so (OECD, 2004). For these students, considerations of costs are likely to be important factors in deciding in which country to study. Conversely, students from countries where significant private investment is required for tertiary level studies at home may be more inclined to consider fee-paying provision abroad. This latter group of students is more likely to be sensitive to cost considerations from a consumer perspective, comparing value for money in alternative destinations.

Evidence suggests indeed that considerations of cost are certainly important factors in students' decision-making, but that this is not the case for all TEIs nor for all students (see Chapter 4).

With respect to TEIs, Marginson (2007) notes that cost issues are likely to be unimportant for the super league universities – those ranked among the top-20 or top-50 in the Shanghai or Times Higher Education rankings of world universities (Shanghai Jiao Tong University, 2007; Times Higher Education Supplement, 2007). These elite TEIs' appeal derives from their continued scarcity and prestige as positional goods, and the perceived social networks they may offer (Lee *et al.*, 2006).

Among the second tier universities however, rational consumer models apply and students are more likely to compare the cost of study in various destinations offering similar educational services. Australia and New Zealand have developed their tertiary education exports sector building – among others – on their lower cost of living and tuition fees relative to the United Kingdom and the United States (Figure 10.3; Marginson, 2007). Yet, this cost advantage has been eroding in recent years relative to the United States and the United Kingdom (IDP Education Australia, 2004). Meanwhile, other cheaper competitors have entered the international education market in South-East Asia whereas in Europe, Denmark, Finland, Norway and Sweden provide tertiary education free of charge (Table 10.3). This cost pattern associated with the existence of programmes in English probably explains part of the robust growth in the number of foreign students enrolled in some of these countries between 2000 and 2005 (OECD, 2007a).

Similarly, considerations of costs matter for some groups of students only, essentially those drawn from middle-class backgrounds, while the most affluent students are less constrained by levels of tuition fees and the cost of living in different destinations. A survey of Thai applicants to Australian TEIs shows for instance that for many of the elite, Australia is not the first choice. But the country attracts those unable to afford study in the United States and United Kingdom (Pimpa, 2005).

The ability of students to pay for studies abroad depends to a large extent on their socio-economic background in their country of origin – *i.e.* elite or middle-class – but also for the second group on the more general economic conditions prevailing in their country of origin. Lee *et al.* (2006) have observed in this respect that middle-income countries host international students from poorer developing countries rather than developed nations, largely because of their financial affordability. This suggests a hierarchy of destination countries, with the most expensive countries of study – in terms

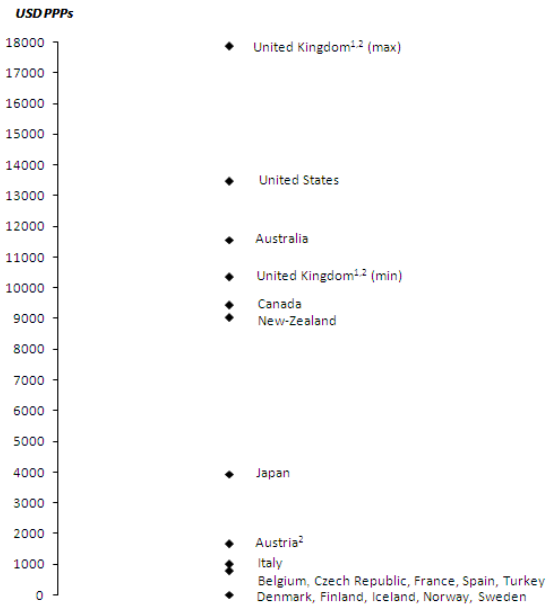
of tuition and living costs – attracting essentially students from affluent backgrounds and/or comparatively richer countries, while other students study in greater numbers in countries with cheaper total cost of study.

Another important element of students' ability to pay for tertiary education abroad is the extent to which public funding for tertiary education is portable. In some countries such as Belgium (Fl. community), Chile, Finland, the Netherlands, Norway and Sweden, the international portability of public funding for tuition clearly eases the financial constraint borne by students.

Business cycles are also important drivers of international student mobility. Bond and Lemasson (1999) show for instance how the economic crisis experiences by the Asian continent in the late 1990s coincided with a brutal drop in international students' registrations from the countries that suffered from strong devaluations of their national currency. Asteris (2006) noted a similar decline in non-EU enrolments in the United Kingdom, suggesting a relocation of international students towards cheaper destinations.

Figure 10.3. Annual average tuition fees charged to international students by public TEIs (2005)

Tuition fees in public tertiary-type A institutions (US$ converted using PPPs)



1. Government-dependant private institutions since public TEIs do not exist in the United Kingdom, 2004 data.

2. For non-European Union or non-European Economic Area students.

Source: OECD (2007a) and OECD (2006).

But Sakellaris and Spilimbergo (2000) show that students from developed and developing countries respond differently to business cycles in the home country, with enrolment of international students in the United States strongly procyclical for non-OECD countries whereas variations are countercyclical and less pronounced for OECD countries. The authors argue that ability to pay and credit constraints are more prevalent for developing countries, while opportunity cost considerations dominate for OECD

countries. The results also indicate that large shocks to the exchange rate – *i.e.* depreciations of more than 20% – have a strong and persistent effect which is spread over roughly three years, which has important implications in terms of diversification for the sustainability of internationalisation strategies.

Possibilities for part-time/seasonal employment during study abroad

The costs of study abroad are not limited to tuition fees. Travel fares, health cover, study materials, institutional fees and the cost of living often place a high burden on international students' budgets – especially those studying in metropolitan areas. The way studies abroad may be financed is thus a criterion almost as important as the overall costs of study abroad. Indeed, the great majority of students self-finance at least part of their study abroad experience. In the United States, this is the case for two thirds of international students (Altbach, 2004). In Indonesia and Taiwan, over three quarters of students contemplating going abroad plan to self-finance their stay (Kemp *et al.*, 1998). In Europe, the student and family contribution to the total cost of study abroad ranges from 36% for Portuguese students to 61% for their Dutch peers and over 72% for Irish and Spanish students (European Commission, 2005).

Griffith and Rask (2007) have shown in the US context, that students in need of financial support to cover the cost of their education tend to favour TEIs offering full-packages – including grants and loans/jobs – over grant-only packages. In the international context, such preferences would then translate in international students favouring study destinations where work opportunities are available to help them cover the costs of living associated with mobility, as well as tuition fees where applicable. A recent study of international students in Australia indicates that 64% of them work or have worked to finance their studies (Deumert *et al.*, 2005). In the United Kingdom, this is the case for 33% of non-EU international students (UK Council for International Education, 2006). The possibility and availability of part-time work may therefore figure prominently among the criteria considered by prospective students.

Academics' salaries and non-salary benefits

Economic considerations also play a role in long-term academic staff mobility, through salaries and non-salary benefits offered in different destinations (Jacobs and van der Ploeg, 2005). For instance, there is acknowledgement in the Netherlands that salary scales and total remuneration are uncompetitive *vis-à-vis* the United States, and that the absence of more flexible arrangements to set academic staff salaries inhibits the recruitment of the highest calibre faculty.

Migration theory suggests that migration decisions are the result of comparisons of salary levels – and other variables – in different destinations. From this perspective, the extent of academic staff expatriation from Europe to the United States is no surprise, given the large wage differential between European countries and the United States (Marginson and van der Wende, 2007a; Enders and de Weert, 2004). Likewise, the greater mobility of academics in the science and technology disciplines may be linked to comparatively higher wage differentials given the high variation of remunerations between disciplines in the United States compared to the more homogenous salary scales prevailing in most European countries. Patterns of academic mobility driven by wage differentials are also observed in Asia, where Lee (2002) notes that the revision of Singapore professor salary scales to levels on par with the United States (in PPP terms)

has contributed to the internationalisation of the faculty – of which nearly half are now expatriates.

Yet, salary is usually not the single criterion considered by academics, whose decisions also take into account non-salary aspects such as working conditions, budgets for research and conferences and so on. New Zealand records a high number of foreign staff in its TEIs in spite of comparatively lower salaries and unfavorable exchange rate, which highlights the importance of these other factors. In particular, Schuster (1994) has shown that interest in permanent expatriation among British academics is higher among staff with a primary interest in research over teaching. Research conditions are also important for Canadians, who are lured abroad by dynamic academic communities and higher funds for research, conferences or laboratory equipment in comparison with budget cuts at home (Lewington, 1999). Richardson and McKenna (2002) confirm these career-building motivations among British academics.

Language of instruction: a critical factor in the choice of a country of study

But student and academics mobility to different countries is constrained by language abilities, and in this respect, the language spoken and used in instruction acts as both a hindrance and an incentive to international mobility.

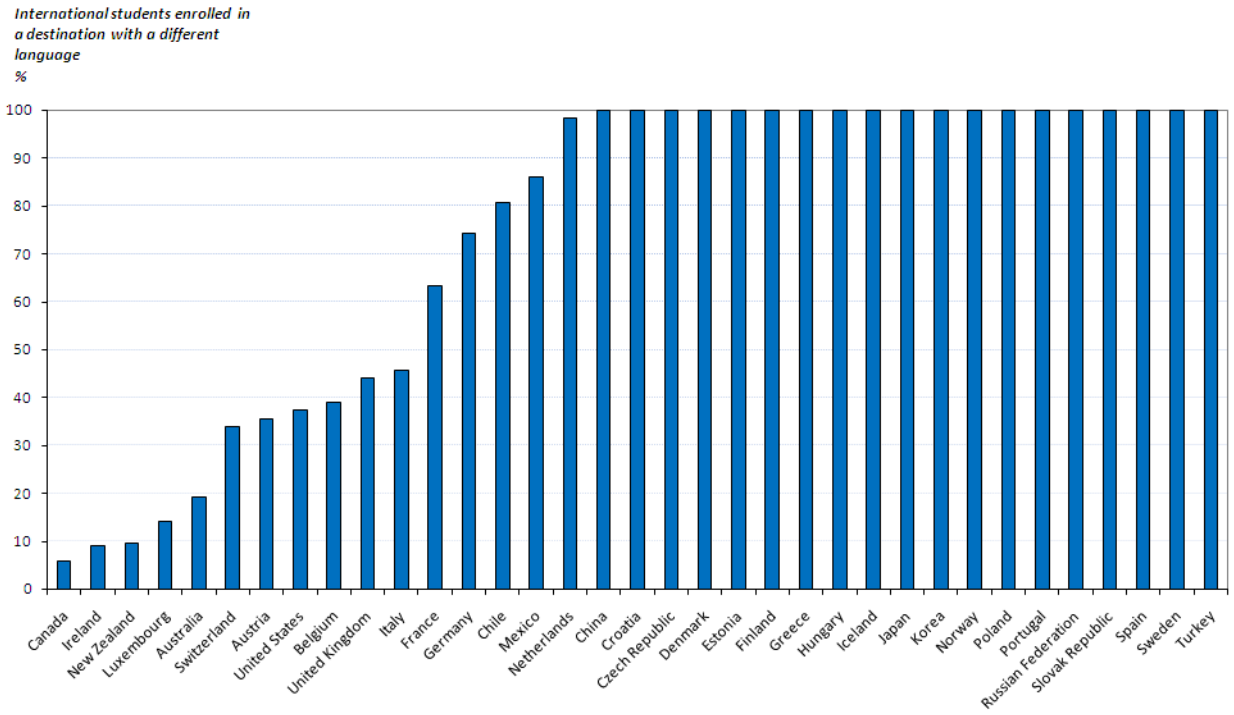
The lack of language proficiency hinders international students' ability to follow an education programme and academics' ability to lecture in a foreign country. As a result, countries whose language of instruction is not widely spoken face more difficulties to attract international students and academics than – say – their English speaking peers. In the same way, students with poor foreign language proficiency are limited in the scope of foreign countries where to study, and student mobility flows tend to be significant between countries sharing a common language. For instance, Racine *et al.* (2003) have shown that the use of the French language by Quebec universities is a powerful magnet for the recruitment of francophone students. In fact, countries whose language of instruction is shared by one or more other countries display lower levels of international mobility to countries with a different language of instruction (Figure 10.4). These findings are consistent with earlier work by Kim (1998).

Meanwhile, learning a different language – either English or another widely spoken language – is often a motivation for studying abroad because 'foreign languages are seen as the passport to travel, study abroad, but also to international work and internship experiences, as well as to an international career' (Knight, 2001). Therefore, countries whose language of instruction is widely spoken and read (*e.g.* English, French, German and Russian) dominate in the destinations of foreign students, be it in absolute or relative terms.

From this second perspective, there seems to be a rush for English-speaking instruction, as illustrated by the dominance of the five leading English-speaking destinations at the global scale which attract 46% of all foreign students worldwide (Figure 10.2). This rush can be explained by the advent of English as a global language – about 20% of the world population can communicate in English to some degree – and the widespread use of English as the working language of business (Crystal, 2003; Knight, 2001). From students' perspective, Anglo-Saxon education systems also benefit from their traditionally flexible degree structures and emphasis on student-centered approaches (van der Wende, 2001). In the United Kingdom, a survey of non-EU international students indicates that English was a key factor in their decision to come to the

United Kingdom for 75% of them (United Kingdom Council for International Education, 2006). The rapid increase in foreign enrolments in Australia, Ireland and, most importantly, New Zealand between 2000 and 2005 can be attributed to similar linguistic considerations (OECD, 2007a).

Figure 10.4. Language of instruction: a hindrance to mobility if alternative options exist (2005)

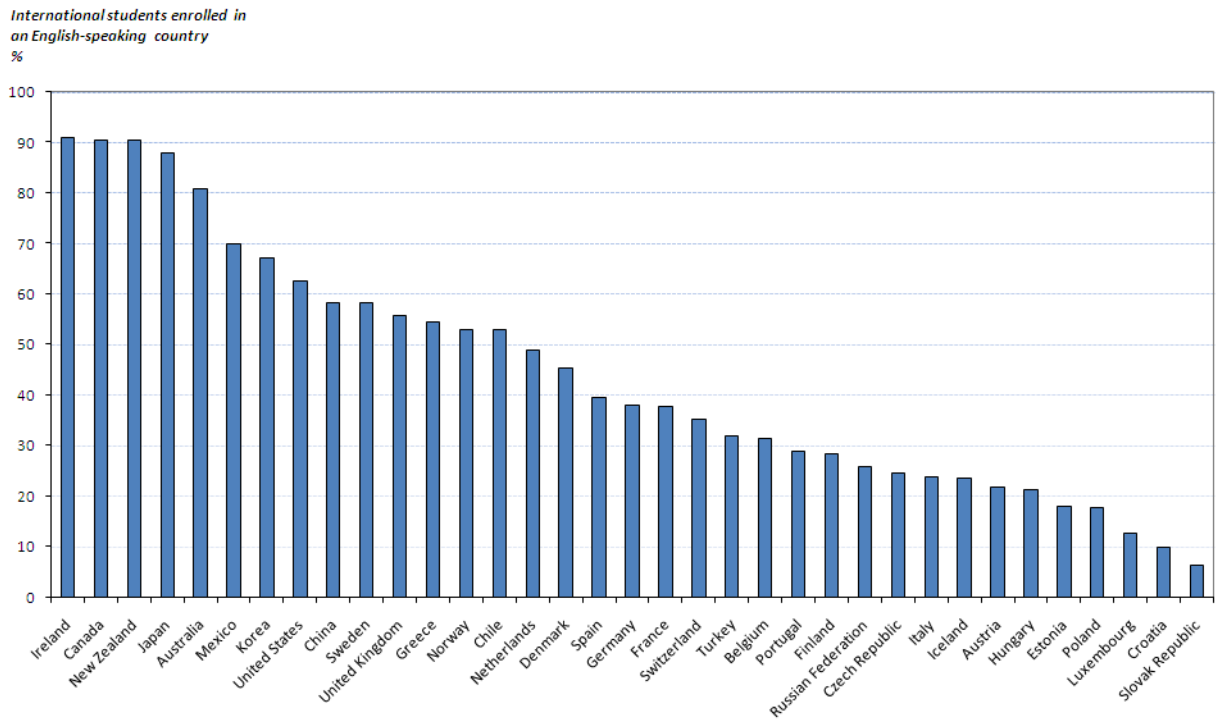


Source: calculations based on OECD, 2007b.

Given this pattern, an increasing number of TEIs in non-English-speaking countries now offer courses in English (Maiworm and Wachter, 2002). Knight (2001) notes that these courses originally targeted domestic students to increase their future opportunities for study and work abroad. But a secondary motive is now coming into play, *i.e.* to overcome the linguistic disadvantage of these countries.

But the rush for English-speaking education is less prevalent in the European context. All countries for which more than half of students studying abroad are not enrolled in English speaking destinations are located in the broader European region, by contrast with the strong English preference of students from Asia and Latin America (Figure 10.5).

Figure 10.5. The rush for English-language instruction: a dominant phenomenon... outside Europe (2005)



Source: calculations based on OECD, 2007b.

Reputation of international qualifications and impact of rankings

Another aspect which acts as both a push and pull factor is the reputation of international qualifications. In the eyes of international students, world-class institutions often act as a signal for the overall quality of the entire tertiary education system. But these world-class TEIs are concentrated in a small number of countries, and this concentration acts as a magnet for the brightest students from countries unable to provide world-class standard tertiary education. Surveys of prospective international students confirm that reputation is a key driver of mobility flows (Kemp *et al.*, 1998; Pimpa, 2005).

Assessing the academic quality of education provided by different TEIs and programmes – let alone different countries – is no easy task. Few countries collect data on student learning outcomes in different TEIs and there is no such endeavour at the international level (Nusche, 2007). Asymmetries of information lead students – especially high-achieving ones – to base their enrolment decisions on perceptions of reputation instead, through imperfect proxies of quality such as the research performance of TEIs or rankings (Siow, 1997; Griffith and Rask, 2007; Clarke, 2006, Dill and Soo, 2005).

The asymmetric information problem is even more acute when students cross borders. Lee *et al.* (2006) note that status and prestige become even greater incentives when committing to study outside one's home country, and TEIs with successful researchers tend to enrol higher proportions of international students. The advent of global university rankings in the past few years, such as the Shanghai and Times rankings, or the German-

based CHE ranking in the European context, have had a growing impact on student and academic mobility (Shanghai Jiao Tong University, 2007; Times Higher Education Supplement, 2007; Center for Higher Education Development, 2007). Salmi and Saroyan (2007) explain this phenomenon by the absence of a single global quality assurance agency, which gives ranking systems the role of a quality regulator for international students.

There is also emerging evidence that rankings also boost academic staff mobility, as TEIs worldwide are competing more aggressively to recruit leading researchers that will be assets to maintain or enhance their position in the rankings (Marginson and van der Wende, 2007b).

But perceptions of quality are most relevant for high income and high-achieving students (Clarke, 2004), and more generally at the post-graduate level. Melin (2004) shows for instance that Swedish post-doctoral students are concentrated in traditionally-strong science producing countries. For the majority of international students who study at lower levels, other factors come into play.

Prestige of host country and intercultural experience

Among them, the attractiveness of specific destinations – by virtue of their geographic location, climate, culture or way of life – is equally important to students' decisions on where to study. Van Hoof and Verbeeten (2005) have shown that the three most important reasons for studying abroad identified within a group of mobile under-graduates to and out of the United States are to i) get an opportunity to live in another culture, ii) travel and iii) specific attraction to the country chosen.

In addition, the intercultural experience of living and studying in a different country yields many benefits for individual participants beyond the acquisition of a foreign language. In terms of social skills, the benefits of study abroad most commonly identified in the literature include a change in stereotypes of other nationalities and the development of an alternative view of the world (van Hoof and Verbeeten, 2005), an increase in intercultural communication skills and diplomacy (Williams, 2005; Palifka, 2003), a gain in maturity and enhanced personal development (Sussex Centre for Migration Research, 2004), and character-building and the fostering of problem-solving skills (Palifka, 2003).

Labour market returns for international participants

But the returns of study abroad or academic mobility are not limited to language acquisition and the development of intercultural skills. A number of individuals cross borders with a view of enhancing their future career opportunities and harvest economic returns on the labour market (Baker *et al.*, 1996; Sussex Centre for Migration Research, 2004; Wiers-Jenssen and Try, 2006).

The returns to studying abroad depend to a large extent on both the policies of sending countries regarding financial aid to students going abroad and the tuition fee policies of countries of destination and their financial support for international students. The cost of living in countries of study and exchange rates also impact on the cost of international education. The long-term returns of an international educational experience also depend on how international degrees are signalled and valued by local labour markets. Sadly, empirical evidence on the actual impact of study abroad on labour market

performance is patchy and depends on whether students return to their home country upon graduation.

In the case of students who return to their home country upon graduation, empirical evidence on the individual returns of study abroad is fairly limited. This is because labour force survey data indicating periods of study abroad among individual characteristics are scarce, making it difficult to assess different career pathways according to this variable. Some analyses based on graduates' follow-up surveys contrast the experiences of mobile *vs.* non-mobile students, but they tend to measure the returns of student short-term student exchanges rather than the returns of degree programme mobility. Alternatively, surveys of past international students assess their perceptions of the benefits of mobility, but cannot be used to measure the impact of mobility *per se*.

Available evidence suggests the existence of a labour market premium of periods of study abroad once controlling for the effect of other individual characteristics. But this premium varies between countries. In Mexico, Palifka (2003) found that a study abroad period confers a 20% wage premium to university graduates relative to their peers trained only in Mexico with the exception of engineering graduates. In Norway, a similar study covering both short-term and degree-programme mobility found a moderate wage premium of 3.7% (Wiers-Jenssen and Try, 2006). By contrast, Ball and Chik (2001) observed no difference in the labour market outcomes for Malaysian graduates trained abroad and domestically.

But the wage premium of international student mobility seems less obvious in the American and European contexts. Van Hoof (1999) found that US industry recruiters do not value international mobility very highly whereas in Europe, only 16% of former Erasmus students consider their wages to be above those of their non-mobile peers (Bracht *et al.*, 2006). Yet, mobility yields a number of other professional benefits: 54% of former Erasmus students consider that their stay abroad helped them secure their first job and they are more likely to be satisfied with the match between their diplomas and their current position and wages. They also display higher job turnover rates, possibly suggesting faster upward career paths.

As far as academic staff mobility is concerned, the Erasmus evaluation study also finds a number of professional benefits to international academic mobility in terms of both research and teaching, although wage *premia* do not seem to be a major outcome of mobility (Bracht *et al.*, 2006). Mobile academics report a general improvement of their research contacts (65%), a broadening of their academic knowledge during their stay (60%), involvement in innovative academic discussions (53%), an improvement in their teaching in general (45%), and the development or implementation of new teaching methods (40%).

In addition, Erasmus mobility has translated in subsequent temporary or permanent migration during the five years that followed the initial exchange. Bracht *et al.* (2006) found that former Erasmus students and academics are more likely to have worked abroad than their non-mobile peers (18% for students and 9% for academics).

Immigration motivations and/or impact of immigration policies in the countries of study

This leads to the next motivation for study abroad, namely longer-term plans for immigration in the country of study. Indeed, some international students see study abroad as a first step towards subsequent immigration in the country of study. Kemp *et al.* (1998)

report this is the case for 42% of prospective international students from Indonesia and Taiwan.

Such behaviour by international students is perfectly rational. Indeed, labour market studies of the integration of immigrants into the labour market extensively show that a local degree known to local employers provides international students with a clear advantage over other immigrants educated abroad (Bratsberg and Ragan, 2002; Cobb-Clark, 2000; Friedberg, 2000; Krahn *et al.*, 2000; Bevelander and Nielsen, 1999). Altbach (2004) notes that the aim of staying in the country of study to work and make a career is a strong pull factor towards some countries of destinations, and interestingly, international students' destinations highlight the attractiveness of specific countries in terms of subsequent immigration opportunities.

But immigration after completion of studies abroad is not always an initial motivation for study abroad. It can also be the result of incentives developed by host countries to lure their international students to stay. Indeed, many OECD countries have recently softened their immigration policies to encourage the temporary or permanent immigration of their international students in the context of skilled labour shortages (Tremblay, 2005). For instance, some countries selecting skilled immigrants on the basis of a point test grant extra points by virtue of a specified period study in the country.

10.2.2 Other emerging forms of internationalisation

But changes in internationalisation patterns have not been limited to student and academic mobility. Other forms of internationalisation also show interesting trends over the past decade or so.

Programme curricula and organisation

The growing internationalisation of tertiary education has had several effects on tertiary programmes' curricula and organisation. These consequences appear both in the content and delivery of tertiary curricula, but also – more broadly – in the structure of tertiary degrees in various countries and means by which students can transfer credits earned across borders.

Internationalisation of curricula

The internationalisation of tertiary curricula gained momentum in the past decade. This trend translates in strengthened foreign languages teaching and enhanced international perspectives in the substantive content of tertiary curricula.

The growing emphasis put on foreign languages teaching derives from the acknowledgement that in a global economy, the lack of command of foreign languages – and more generally of knowledge of international conditions – creates a glass ceiling in employment, even for engineers and technical workers who may think that science-based competencies are all that matters. In this respect, the advent of English as a global language of communication has translated into increased accent on foreign languages teaching in non-English speaking countries, but meanwhile in lesser emphasis in Anglo-Saxon countries. Teaching of foreign languages covers both the preparation of domestic students to foreign languages, and – increasingly – teaching of other disciplines in foreign languages.

The trend towards delivering programmes in foreign languages – English mostly – has been especially noticeable in Nordic countries in the past decade (OECD, 2007a; van der Wende, 2001). But a number of other non-English speaking destinations have a national policy framework which allows the delivery of educational programmes in foreign languages. This is the case of Belgium (Fl. community, for Master programmes), Croatia, the Czech Republic, Estonia, Finland, Greece (for post-graduate programmes), Iceland, Japan, Korea, Norway, Poland, Portugal, the Russian Federation, Spain and Sweden, and at the discretion of TEIs in Mexico, the Netherlands and Switzerland (Table 10.1).

With respect to the preparation of domestic students in foreign languages, trends are more difficult to assess at national level, although many TEIs in Korea require proficiency in foreign languages for students to earn a post-graduate degree.

There is also some evidence of a growing emphasis of TEIs on internationalising their curricula beyond foreign languages teaching or delivery. In Australia for instance, Harman (2006) reports that universities have put considerable efforts in the incorporation of international and intercultural perspectives and the adoption of inclusive pedagogy. The internationalisation of tertiary curricula has also occurred through the development of internationally-focused programmes in some countries. For instance, the Korean government has funded the establishment of nine graduate schools of international studies between 1997 and 2001. These schools conduct all their courses in English and graduates receive assistance in securing positions at international organisations.

Another noteworthy initiative with respect to the internationalisation of curricula is the Jean Monnet programme that was launched by the European Commission in 1990 to stimulate teaching, research and reflection in the field of European integration studies at the level of TEIs within and outside the EU. Since its inception, the Jean Monnet programme has helped to set up approximately 2 900 projects in the field of European integration studies, including 124 European Centres of Excellence, 761 Chairs and 1 982 permanent courses and European modules. The programme is now present in 60 countries worldwide and around 700 TEIs offer Jean Monnet courses as part of their curricula.

Convergence of programmes' structures as part of the Bologna Process… and beyond

Another significant trend relates to the profound changes in the organisation and structure of national tertiary education programmes as part of the Bologna Process. Yet, progress with the implementation of the Bologna BMD degree structure has been uneven across countries. The Stocktaking exercise prepared ahead of the 2007 London Ministerial meeting highlights good progress overall, with nearly three quarters of Bologna participating countries having more than 60% of their tertiary students enrolled in a 2-cycles degree system compatible with Bologna principles. Among participants in the Review, over 90% of students are enrolled in Bologna-compatible degree programmes in Finland, Iceland, the Netherlands, Norway and the United Kingdom. This proportion drops to 60-89% – suggesting a later implementation of the BMD structure – in Belgium, the Czech Republic, Estonia, France, Greece, Poland and Switzerland, and to 30-59% in Croatia, Portugal and Spain. The implementation of the BMD structure is lagging behind in Sweden where legislation to reform the tertiary education system in line with the Bologna structure was only voted in 2006, and even more so in the Russian

Federation where a tiny minority of students are enrolled in Bachelor and Master programmes[52] (Bologna Secretariat, 2007).

International credit transfers schemes

A related aspect concerns the ECTS which was introduced in 1989 within the framework of Erasmus and reinforced in 1999 with the Bologna declaration. Together with the Lisbon Diploma Supplement, these instruments were established to promote student mobility in Europe, but they are now increasingly used to attract students from outside the EHEA by enhancing the transparency of programmes' content and hence boosting the attractiveness of European study destinations.

Again, progress with the implementation of the ECTS and Diploma Supplements is generally good, although uneven across countries, as observed in the Stocktaking exercise prepared ahead of the 2007 London Ministerial meeting and in a study of the European Students' Union (ESU, 2007). As far as the ECTS is concerned, 37 out of 46 participating countries allocate ECTS credits – or fully-compatible credits – in at least 75% of their tertiary education programmes. Among participants in the Review, ECTS credits are universal in Belgium, Croatia, Finland, France, Greece, Iceland, the Netherlands, Norway, Poland, the Russian Federation, Sweden, Switzerland and Scotland. They were used in at least 75% of tertiary programmes or a fully-compatible system was in place in Estonia, Portugal and Spain, but this proportion dropped to 50-74% of tertiary programmes in the Czech Republic while participation in the ECTS is only optional in the rest of the UK, along the Northern Ireland and Welsh national credit systems (Bologna Secretariat, 2007).

With respect to the Diploma supplement, 32 out of 46 participating countries provided – either automatically or upon request – a diploma supplement in the international format and in a widely spoken European language to their 2007 graduates. Among participants in the Review, all 2007 graduates automatically received a Diploma Supplement in the Czech Republic, Estonia, Finland, Greece, Iceland, Norway, Poland, Portugal, Sweden, Switzerland and most TEIs in Scotland, and upon request in Belgium and the Netherlands. However, the Diploma Supplement was only be provided – upon request – to graduates of some programmes in Croatia, France, Spain and the rest of the United Kingdom, and incurred charges in the case of the Russian Federation[53] (Bologna Secretariat, 2007).

In practice, difficulties in relation to the recognition of foreign credentials at the stage of admission of foreign students have also been reported in some countries (ESU, 2007). They are mostly due to the problems associated with comparing grades from very different grading systems in a just way and the verification of documents.

52 The Russian Federation has adopted a new legislation in 2007 to make the adoption of the two-cycle degree system mandatory for all TEIs and the great majority of programmes (National Training Foundation, 2007).

53 The situation is changing however, since a 2005 decree states that European Diploma Supplements must be issued to graduating students of all accredited TEIs who have completed accredited educational programmes by 2008, automatically and free of charge (National Training Foundation, 2007).

Programme and institutional mobility

According to Altbach (2004), 'we are at the beginning of the era of trans-national higher education, in which academic institutions from one country operate in another, academic programmes are jointly offered by universities from different countries, and higher education is delivered through distance technologies'. Indeed the past decade has seen the emergence and growing development of off-shore delivery of education by TEIs, a trend which has been driven by multilateral agreements on trade in services as well as reforms of tertiary education in many countries that have made delivery more flexible and allowed foreign TEIs to operate on their domestic territory. Historically, Australia and the United Kingdom have pioneered this movement, but the United States has also become a major force in this area (van der Wende, 2001). In addition, a number of other countries – especially in Europe – have joined this trend and set up campuses abroad and other trans-national arrangements since 2000.

Operations of domestic TEIs abroad

An increasing number of OECD TEIs operate outside of their domestic territory. From the supply side, this trend is permitted by liberal national policy frameworks that allow the establishment of campuses abroad by domestic TEIs without restrictions in the Czech Republic, Finland, Mexico, Portugal, the Russian Federation, Spain, Sweden and the United Kingdom, and subject to restrictions in terms of accreditation, approval, quality assurance arrangements, ownership of overseas' premises or recognition in Australia, Belgium (Fl. community), Japan, Korea, New Zealand, Norway and Poland (Table 10.1). In the Netherlands, universities are prevented from offering a full qualification on foreign soil, but some larger universities of applied science have established campuses abroad. As far as the demand side is concerned, foreign campuses respond to the needs of local communities by providing Western-style education at lower tuition fee levels than if students change countries (Harman, 2006). But the establishment of a Flemish campus in the United Arab Emirates also highlights the growing demand from expanding expatriate communities in some countries.

British and Australian TEIs have pioneered in this area as early as in the 1990s. In Hong Kong, half of the foreign degrees offered by private TEIs, distance learning programmes or partnerships with local universities involved British universities in 2004 (OECD, 2004). Similarly, Australian TEIs have set up campuses in Canada, Malaysia, Singapore, South Africa and Vietnam. Accordingly, the recent years have seen a marked increase in offshore enrolments and in the proportion of offshore enrolments among international students, at about a third of the total nowadays (Harman, 2006). These forms of internationalisation are expected to grow more rapidly in the future than the delivery to international students onshore. Yet, these endeavours are not risk-free and instances of failures have occurred in the past.

Growth has also been rapid in France: while the first foreign campus of a leading French business school was established in 2000, less than a decade later French TEIs operate campuses in Europe (Germany, Italy, Spain, the United Kingdom), the Middle East (Pakistan, Qatar and the United Arab Emirates) and Asia (China, Singapore) (Basini, 2007). There are also reports of efforts by TEIs in Canada, China, India, Singapore and South Africa to expand their activities abroad (McBurnie and Ziguras, 2001; OECD, 2004). At a more moderate level, TEIs from Belgium (Fl. community) operate campuses in the United Arab Emirates. By contrast, offshore campus-based activities remain limited

in New Zealand. It has been argued that this is the result of lower gains per student and higher levels of risk (MoE, 2004).

More recently, virtual TEIs which operate exclusively on line have emerged. Although some of them have gained good international reputation and enrol large numbers of students located in different countries, it remains to be seen whether virtual TEIs will remain marginal or become new instruments of internationalisation (Box 10.1).

Operations of foreign TEIs on domestic territory

Conversely to the establishment of campuses abroad by domestic TEIs, a number of countries' legal frameworks allow the establishment on their territory of campuses owned by foreign TEIs. This is the case – without restriction – of Croatia, the Czech Republic, Finland, Japan, Mexico, the Netherlands, Portugal, the Russian Federation, Spain and Switzerland. In addition, Australia, Belgium (Fl. community), China and New Zealand allow foreign TEIs to operate on their territories subject to accreditation restrictions, while Norway, Sweden and the United Kingdom impose restrictions related to the recognition of degrees awarded. China, Poland and Korea also impose restrictions, of a geographic nature in the case of Korea while China imposes co-ownership of the campus with a domestic TEI (Table 10.1). In practice, many obstacles still remain – for instance on the citizenship composition of the governing boards of foreign TEIs. The Korean situation illustrates these obstacles: there is a maximum of two thirds of foreign directors in a private (hence foreign) university board, and as a result, no foreign-affiliated school had established in Korea as of 2004.

Box 10.1. Virtual universities as an instrument of internationalisation?

E-learning is becoming increasingly prominent in tertiary education. The past decade has seen the emergence of a number of virtual universities providing tertiary courses and programmes through the Internet. The OECD Centre for Educational Research and Innovation (CERI) recently carried out a survey of OECD TEIs providing e-learning education services to better understand practices at institutional level (OECD, 2005b). This survey identified a number of virtual universities operating exclusively on line, but highlighted significant variation in the extent of their international stance.

For a number of these virtual TEIs, a significant proportion of students are located abroad, hence contributing to the export industry of their country and turning these TEIs into instruments of internationalisation. This is for instance the case of the UK-based Open University, where 14% of the 180 000 students live outside the United Kingdom. But virtual TEIs offering e-learning programmes in languages other than English are also active in this area, as illustrated by the Open University Catalunya in Spain where international action is considered one of the strategic pillars of the institution's mission and international students represent 21% of enrolments. Similarly, 8% of the Fern Universitat Hagen students live outside Germany and in Mexico, the Virtual University of Tec de Monterrey is active in delivering cross-border online degree programmes in Spanish in Mexico, Spain, the United States and a good number of Latin American countries.

By contrast, some virtual TEIs operate essentially for the domestic market and are not used as instruments of internationalisation. In the Netherlands for instance, less than 3% of the Open Universiteit Nederland students lived abroad in 2006, while this is the case for less than 1% of the student body of the Open Polytechnic of New Zealand and the Cyber University in Japan.

Yet, provision for the domestic market is sometimes the first step towards export provision. For instance, the Korean International Cyber University endeavors to create cyber-education courses in Korean and Women's studies to be provided to people all around the world after initially serving the domestic market. Likewise, the Swiss Virtual Campus programme aims to encourage TEIs to make better use of ICT by providing official recognition of the quality of interactive virtual courses and integrating them in the curricula through the European Credit Transfer System. Reflecting the multilingual nature of the country, online courses are offered in several languages whenever possible to facilitate their export to other countries.

Joint programmes

Given the obstacles as well as the risks faced by TEIs in setting up campuses in foreign countries, the majority of trans-national operations take the form of joint programmes with TEIs abroad through franchise arrangements with a partner TEI in the international students' home country. Joint programmes are permitted without restriction by the national policy frameworks of Belgium (Fl. community), Croatia, the Czech Republic, Estonia, Finland, Greece, Iceland, Japan, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Russian Federation, Spain, Switzerland and the United Kingdom. By contrast, Sweden allows joint programmes but not joint degrees, Australia imposes quality assurance restrictions while Korea requires the joint programme to be delivered in a domestic TEI (Table 10.1).

In practice, joint programmes are quite widespread among Australian TEIs' offshore activities, essentially with TEIs located in China (including Hong Kong), Malaysia and Singapore (AVCC, 2003). In most cases, these joint programmes are operated through formal agreements with foreign providers whereby Australian TEIs develop the programme and oversee academic standards. Similarly, a number of Dutch TEIs have established joint foreign university institutes in Egypt, Greece, Italy, Japan, Morocco, the Russian Federation, Spain, Syria and Turkey. But the most accomplished form of joint programmes is found in Belgium (Fl. community) and the Netherlands, which have jointly established a trans-national TEI in 2001: the University of Limburg.

Overall, recent trends suggest that although programme and institution mobility is not so important as yet, more action is to occur in this area and OECD countries will have to think about how to handle and regulate this emerging form of internationalisation.

10.3 Issues at stake and related policy challenges

The above discussion has highlighted the complexity of internationalisation of tertiary education both in terms of the multiplicity of its forms, drivers, trends, and as we shall see below, rationales. This complexity leads to numerous challenges for policy makers, in terms of approach to internationalisation, optimisation of mobility flows, attention to equity of access to international education, protection of students and quality assurance, and monitoring of brain circulation.

10.3.1 Optimising mobility flows

The first challenge for policy makers is to devise a sound approach to internationalisation, and optimise mobility flows – both incoming and outgoing – consistently with national goals. The optimisation of mobility flows entails a number of sub-challenges, in terms of promoting the attractiveness of the education system to prospective international students, encouraging the mobility of domestic students, maximising returns of internationalisation and ensuring the sustainability of international strategies.

Policy approaches to internationalisation

Policy approaches to internationalisation describe the manner in which internationalisation is being conceptualised and implemented in various countries or regions, and the aspects which are emphasised to develop and implement an

internationalisation policy or strategy. Knight (2004) underlines in this respect that approaches to internationalisation are not mutually exclusive as countries may follow several approaches in parallel, nor fixed as approaches to internationalisation may change over time. Most importantly, there is no right or wrong approach since internationalisation strategies need to be considered within the framework of country-specific strategies and constraints. As put by Marginson and van der Wende (2007a), 'Nations and institutions bring varying capacities and agendas to global exchange (… and) have space in which to pilot their own global engagement'.

Earlier OECD work has identified four main rationales for internationalisation (OECD, 2004):

– The mutual understanding approach

  This is the traditional approach to internationalisation, built upon the traditional values of academic exchange and cooperation. Internationalisation has long been supported in OECD countries on the ground that better understanding of other cultures and possible ties/personal links between the political and economic elites of the host and sending countries can strengthen political and economic ties and enhance social cohesion in increasingly multicultural societies. In addition, student mobility often figures prominently in OECD countries' foreign aid commitments.For instance, Norway has a longstanding tradition of providing generous support to developing countries through cooperation in tertiary education and scholarship schemes.

  Over time, this cooperative approach has slowly given way to a more competitive approach to internationalisation and driving factors of a more economic nature, starting in Anglo-Saxon countries, but also increasingly so in Europe. The cooperative approach is still very strong in continental Europe, driven by the EU's agenda and mobility programmes (Erasmus, Socrates) and also, according to van der Wende (2001), by the lack of incentives for TEIs to compete for international students in many countries. But the Lisbon Process is now implicitly inviting European TEIs to compete more resolutely than in the past for students, influence, prestige and money on the global scale.

– The revenue-generating approach

  In this second approach – which Slaughter and Rhoades (2004) have called 'academic capitalism and the new economy' – educational services are offered to international students at unsubsidised rates that cover at least the cost of their education. Like any other market service, the revenue-generating approach has a goal of enrolling a large number of international students or the control of a large share of the market.

  This second approach developed in response to the increasing demand for tertiary education from both national and international students and the difficulties this poses for the funding of tertiary education. Australia, New Zealand and the United Kingdom can be said to have adopted an approach to the internationalisation of tertiary education partly driven by revenue-generating considerations. In Australia for instance, fees from international students amount to 15.4% of publicly-funded TEIs' total income in 2005, and exceed 20% of revenue in some highly-internationalised TEIs. In New Zealand, they accounted for 13% of TEIs' total revenue in 2004.

– The skilled migration approach

  In the past few years, ageing societies, the rise of the knowledge economy and global competition for skills provided a new driver for the internationalisation in many OECD countries, whereby the recruitment of international students is part of a broader strategy to recruit highly skilled immigrants on the hope that some of them remain in their host country after their studies and at least stimulate academic life and research while they study. Whereas the revenue-generating approach brings economic benefits to the TEIs as well as the economy of the receiving country, the skilled migration approach has a clear economic drive but a limited direct economic impact on the tertiary education sector.

  This is the approach largely taken by Germany, but also to some extent Switzerland. This rationale is also strong for Australia, Canada, New Zealand, the United Kingdom and the United States, highlighting that approaches to internationalisation are not mutually exclusive.

– The capacity-building approach

  Finally, some countries have a deliberate import approach to internationalisation – by encouraging their students to study abroad and foreign TEIs to operate in their country – with a view to build or improve their capacity in tertiary education (OECD, 2007d). Indeed, study abroad and recourse to international providers can prove a cost-effective alternative to domestic provision when resource constraints at the national level impede the provision of tertiary education either in sufficient quantities, of the appropriate standard, or in the desired disciplines.

  This is the approach adopted by a number of Asian countries – prominently China, Malaysia and Singapore – to widen the access of their population to tertiary education and in a second stage help local TEIs build capacity through the transfer of educational know-how in curriculum design and quality assurance (Asteris, 2006). This approach is also used by smaller industrialised countries such as Iceland to overcome the lack of economies of scale in highly specialised fields.

Promoting the attractiveness of national tertiary education systems

In general, there is a wide consensus among countries participating in the Review that opening up tertiary education for larger numbers of international students and recruiting staff more internationally would have many important benefits in terms of *i)* bringing new talents into the TEIs and the country, *ii)* helping further internationalise the environment in TEIs, including at the under-graduate level, *iii)* broadening the experience among staff, *iv)* facilitating cooperation with research environments abroad, and *v)* potentially raising considerable income. Several policy levers can help achieve this overarching goal of promoting the attractiveness of the tertiary education system to international students and staff.

Marketing policies

Kwiek (2001) notes that TEIs in the Western world increasingly borrow marketing methods from the private sector, as they come to see education as a service export. And indeed, the international marketing of tertiary education is an important instrument to

attract international students and faculties into national education systems. Marketing policies include several aspects.

The first one relates to the development of a brand image/identity of tertiary education for the international market, and the use of diplomatic, economic and education channels to disseminate it. Most countries taking part in the Review have adopted national policies or schemes to develop the brand image of their tertiary education system towards international audiences.

As a first step, information brochures or Web sites aimed at prospective international students are developed at the national level in Australia, Belgium (Fl. community), China, the Czech Republic, Estonia, Finland, Iceland, Japan, Korea, the Netherlands, New Zealand, Norway, Poland, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Table 10.3). For instance, the British Prime Minister launched a new initiative in 1999 to increase the number of international students and the EducationUK Web site (www.educationuk.org) came out of this initiative (British Council, 2007a). Similarly, the Korean government developed a government Web site in 2001 (www.studyinkorea.go.kr) and launched the 'Study Korea' project in 2005 with the intention of attracting 50 000 international students to Korea by 2010 (NIIED, 2007).

In addition, a number of governments also support marketing efforts of their tertiary education sector abroad. This is the case in Australia, Belgium (Fl. community), China, Finland, Japan, Korea, the Netherlands, New Zealand, Poland, Portugal, the Russian Federation, Sweden and the United Kingdom (Table 10.3).

In some countries, marketing activities are performed by organisations/agencies devoted to this task. For instance, *Education New Zealand* is funded by public and private TEIs through a compulsory levy on international student fees to promote the national brand and generic image of New Zealand as a study destination, carry out market research, coordinate TEIs' marketing activities and advise the government. In Sweden, the Swedish Institute presents Swedish tertiary education at various international educational fairs, while similar activities are carried out by *Edufrance*, the *Netherlands Organisation for International Cooperation in Higher Education* (NUFFIC) and the *Centre for International Cooperation in Higher Education* (SIU) for Norway. In Korea, governmental support to marketing activities is essentially financial, helping TEIs to participate in education fairs.

Some governments also use their diplomatic representations to strengthen long-term education partnerships with key regions. This is the case of Australia and New Zealand. The Netherlands has also set up offices run by NUFFIC to promote tertiary education abroad (Box 10.2).

In some cases, specific marketing is also directed at subject specialisations in areas of excellence (in a trade perspective) or critical areas of the economy where skilled graduate employees are in short supply and global penetration is desired (in a human resources development perspective). The Netherlands adopted such an approach to establish a reputation and a brand mark as a leading nation in some areas.

Box 10.2. Promoting tertiary education through offices abroad: New Zealand, the Netherlands and Australia

New Zealand Education Counsellors

The New Zealand government has appointed seven education counsellors to its diplomatic missions in Belgium, Chile, China, India, Korea, Malaysia and the United States with another planned for Saudi Arabia.

Their chief task is to build and strengthen bilateral education relationships nationally and at the level of TEIs, to support the efforts of the New Zealand education sector to expand export opportunities, and to contribute to New Zealand broader development and foreign policy goals. Education counsellors are also expected to work to expand tertiary linkages, especially in research and the creative, biotechnology, communications and information technology industries, which are the areas the government has identified as vital for the transformation of the economy.

Netherlands Educational Support Offices

The Netherlands has opened five Netherlands Education Support Offices (NESOs) in China, Indonesia, Mexico, Taiwan and Vietnam. Offices in the Russian Federation and Thailand are expected to be opened in 2008, and three more offices are under consideration.

NESOs' main task are the generic promotion of Dutch tertiary education through information to students and promotion activities, and the enhancement of cooperation between TEIs in the Netherlands and in the NESO regions through support and liaison for the academic communities of the Netherlands and of the country they are situated in. While NESOs' important role is to provide information and guidance to students, scientists and other professionals who wish to study and/or research at Dutch TEIs, NESOs' role in matchmaking TEIs is growing in some countries. For example, NESO Indonesia offers assistance to Indonesian universities in finding the most appropriate study programmes and courses and in finding technical assistance, under the sponsored programme by the Asian Development Bank to strengthen tertiary education in Indonesia.

Australian Education International network

The Australian Department of Education, Science and Training (DEST) also works through an International Network comprising Australian Government accredited personnel (counsellors) and locally engaged staff. This network represents Australia's interests in 18 economies (Belgium, Brazil, Chile, China, France, India, Indonesia, Japan, Korea, Malaysia, Mexico, Pakistan, Singapore, Taiwan, Thailand, United Arab Emirates, United States and Vietnam).

This international network allows Australian Education International (AEI) to advance Australia's interests in international education through the generic promotion of Australian education and training, government-to-government representation, provision of strategic policy advice to Australian education providers on in-country education and training developments and assistance to Australian education providers in their overseas networking and operations.

Table 10.3 **Internationalisation policies, 2007**

	Inward mobility of international students												Outward mobility of domestic students	
	National policies/schemes designed to encourage the enrolment of international students													
	Information brochures or websites	Support to marketing of tertiary education abroad	Quality assurance framework for international students	Visa policy easing conditions of entry	Visa policy allowing international students to work upon graduation	Fee policy allowing TEIs to charge full-fees	Permission for TEIs to deliver programmes in a foreign language	Support to international students (e.g. housing, counselling)	Scholarships for top international students	Other	Payment of tuition fees by international students	Possibility for international students to apply for a work visa upon graduation	Existence of grants/loans to study abroad for domestic students	Provisions on the return of students upon graduation in study abroad grants/loans
Australia[1]	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	*a*	Yes (generally higher fees)	Yes (special visa schemes/conditions for all graduates)	Yes, specific mobility grants (living and travel costs; max. 1 year; postgraduates)	No
Belgium (Flemish Community)	Yes	Yes	No	No	No	No	Yes (master programmes)	No	No	*a*	Yes (higher fees except students from EU, EEA, developing countries)	Yes (same visas conditions as other prospective migrants)	Yes, general grants/loans (tuition and living costs; some restrictions)	No
Chile	No	No	No	No	No	No	No	No	No	*a*	Yes (same fees)	Yes (same visa conditions as other prospective migrants)	Yes, general grants/loans (tuition and living costs)	Yes (delivery conditional upon commitment to return in most cases)
China	Yes	Yes	No	No	No	Yes	No	No	Yes	*a*	Yes (higher fees except students from Hong Kong, Macao, Taiwan)	No	Yes, specific mobility grants/loans (tuition and living costs)	Yes (delivery conditional upon commitment to return)
Croatia	No[2]	No	Yes	No	No	Yes	Yes	No	No	*a*	Yes (higher fees except students from EU, EEA upon accession)	Yes (same visa conditions as other prospective migrants)	Yes, specific mobility grants (all or part of tuition and living costs)	Yes (delivery conditional upon commitment to return for grants covering all tuition and living costs[3])
Czech Republic	Yes	No	No	No	No	Yes[4]	Yes	Yes	No	*a*	Yes (higher fees except students from EU, EEA)[4]	Yes (same visas conditions as other prospective migrants; need to return to home country first)	Yes, specific mobility grants (living costs)	No
Estonia	Yes	No	Yes	Yes	No	Yes	Yes[5]	Yes	Yes	*a*	Yes (higher fees except students from EU, EEA)	Yes (same visas conditions as other prospective migrants; need to return to home country first)	Yes, specific mobility grants/loans (living costs)	No (with the exception of one scheme)
Finland	Yes	Yes	No	No	Yes	No	Yes	Yes	No	*a*	No	Yes (special conditions for all graduates: 6 months to look for a job)	Yes, general grants/loans (tuition and living costs)	No
Greece	No	No	No	No	No	No	No	No	No	Establishment of Hellenic International University[6]	Yes (higher fees[7] except students from EU, EEA)	Yes (same visa conditions as other prospective migrants)	No	*a*
Iceland	Yes	No	No	No	Yes	No	Yes	No	No	*a*	Yes (same fees)	Yes (special conditions for all graduates[8])	Yes, general grants/loans (living costs)	No
Japan	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	*a*	Not stipulated by national policy framework	Yes (within a certain period after graduation: 6 months to look for a job)	Yes, specific mobility grants/loans (tuition and living costs)	Yes (delivery conditional upon commitment to study/teach/work abroad in a TEI, research institute or international organization)
Korea	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	*a*	Yes (same fees)	Yes (special conditions for graduates in specific fields/occupations for a max. of 3 years)	Yes, specific mobility grants (tuition and living costs)	No
Mexico	No	No	No	No	No	Yes	Yes	No	No	*a*	Yes (higher fees)	No	Yes, specific mobility grants/loans (tuition and living costs)	Yes (delivery conditional upon commitment to return)
Netherlands	Yes	Yes	Yes	Yes[9]	Yes	Yes	Yes	No	Yes	*a*	Yes (higher fees[10] except students from EU, EEA)	Yes (within a certain period after graduation: 3 months to look for a job)[11]	Yes, general grants/loans (tuition and living costs)	No
New Zealand	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Network of Education Counsellors abroad; possibility to work during studies	Yes (higher fees except PhD students enrolled since 19 April 2005 and postgraduates under bilateral agreements such France and Germany)	Yes (within a certain period after graduation: 6 months to look for a job[12])	Yes, general grants (tuition, living and travel costs; PhD students; only a limited number)	*a*
Norway	Yes	No	Yes	No	Yes	No	Yes	Yes (1100 per year)	No	*a*	No (except at private institutions where domestic students also pay fees)	Yes (special conditions for all graduates for a max. 1 year; automatic for EU/EEA citizens)	Yes, general grants/loans (living costs); specific grants/loans (tuition)	No
Poland	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	*a*	Yes (higher fees except students from EU, EEA)	*m*	No	*a*
Portugal	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	*a*	Yes (same fees)	Yes (special conditions for all graduates)	Yes, specific mobility grants (tuition and living costs; only for postgraduates)	No
Russian Federation	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	*a*	Yes (higher fees except students with a scholarship)	No[13]	Yes, specific mobility grants (tuition, living and travel costs; max. 1 year)	No
Spain[1]	Yes	No	No	Yes	No	No	Yes	Yes	No	*a*	Yes (same fees)	*m*	Yes, general grants/loans (living costs); specific mobility grants/loans (living costs)	No
Sweden	Yes	Yes	No	Yes	No	No	Yes	No[14]	Yes	*a*	No[15]	Yes (same visa conditions as other prospective migrants)	Yes, general grants/loans (living costs); specific loans (tuition and additional living costs)	No
Switzerland	Yes	No	No	Yes	No	No	Yes	No	No	*a*	*m*	*m*	Yes (only post-doc students)	*m*
United Kingdom	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	*a*	Yes (generallyhigher fees except students from EU[16])	Yes (special conditions for all graduates for a max. of 1 year; max. of 2 years in Scotland)	No	*a*

Definitions:

Inward mobility of international students refers to the physical movement of students from a foreign country to study in a domestic TEI. It does not include international students enrolled in distance education programmes or offshore branches of domestic institutions.
Full-fees refer to the policy by some countries not to subsidise the education of international students from public funds.
Scholarships for top international students refer to grants and scholarships aimed at international students only, and which are granted on the basis of academic merit.
Special visa schemes/conditions refer to immigration provisions in certain countries that are designed to facilitate the immigration of tertiary graduates who received part of their tertiary education in the country.
Outward mobility of domestic students refers to the physical movement of domestic students to study in a foreign country. It does not include domestic students enrolled in distance education programmes of foreign tertiary education institutions, or in local campuses of foreign tertiary education institutions.
Specific mobility grants/loans refer to grants and loans schemes for which enrolment abroad is among the eligibility criteria.
General grants/loans refer to grants and loans schemes for which enrolment abroad is not an eligibility criteria.

Notes: *a* : Information not applicable because the category does not apply; *m* : Information not available; *TEI* : Tertiary education institution
1. Information concerns universities only and does not account for the non-university sector.
2. A website was under construction at the time this Table was prepared.
3. Students receiving a grant that covers full tuition and living costs get a guaranteed civil service employment at the end of their studies.
4. Full-fees apply to programmes that are delivered in foreign languages. Most international students are enrolled in those programmes.
5. Instruction in foreign languages is at the discretion of TEIs for public universities and private TEIs but requires Minister's approval in the case of public professional TEIs and VET schools.
6. The Hellenic International University was established by law to encourage international students to Greece. It has not operated yet.
7. The majority of international students studying in Greece are on a scholarship scheme. Those without a scholarship pay fees.
8. International students who have been in Iceland for a minimum of three years may apply for a permanent work permit.
9. Only if the student is enrolled in a TEI adhering to the code of conduct for recruitment of foreign students.
10. International students can receive grants from TEI or from the national grant scheme.
11. From 2008, the period to look for a job will be extended to 12 months.
12. In addition, New Zealand qualified international students get additional points for immigration purposes.
13. Only employers can apply for work visa, thus graduates need to return to their home country first and wait until an employer obtains a visa.
14. Although most TEIs provide support to international students, there is no national policy regarding this issue since internationalisation is at the discretion of TEIs.
15. Although there is a proposal to introduce fees for non-EU/EEA students, no decision has yet been taken and it is unclear whether such a policy will be introduced.
16. Part-time and postgraduate fees are un-regulated for all students whether domestic, EU or non-EU.

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.

Information and courses databases

In addition to brochures and Web sites, some countries have improved the visibility of their educational offer to prospective international students through interactive information tools on courses availability and descriptions accessible from a single gateway rather than searching individual TEIs' Web sites. The Australian "Going to Uni" Web site (www.goingtouni.gov.au) illustrates good practice in this respect. This Web site provides a single national database about approved tertiary education courses, costs and support arrangements for students (DEST, 2007. Although initially designed for all students, it proved to be a user-friendly information entry gate for prospective international students, thanks to its interactive search functions. In the United Kingdom, the *Universities and Colleges Admission Services* (UCAS) course search database offers similar features (www.ucas.com/students/coursesearch).

In non-English speaking countries, developing English versions of similar course information databases could prove an effective way of promoting the national education system internationally. The *Studychoice* Web site in the Netherlands (www.studychoice.nl) is a good examples in this area. This easy-to-use English-language application guides prospective international students through more than 2500 bachelor and master degree programmes in the Netherlands, allowing them to choose from more than 90 different criteria to obtain a personal comparison of study programmes on offer (Surf Foundation, 2007). In Norway, the *Study in Norway* Web site (www.studyinnorway.no) also provides an overview of Master programmes taught in English.

Poles of excellence

Centres of excellence or traditional expertise in some disciplines are also important, especially to attract post-graduate students who are more sensitive to research performance and global rankings. The advent of global rankings of TEIs in the past few years has raised awareness in government and tertiary education circles on the need to strengthen centres of excellence in order to promote the attractiveness of programmes to prospective international students. According to Marginson and van der Wende (2007a), these rankings have prompted the desire for higher ranked universities both as symbols of national achievement and prestige, and as engines of knowledge economy growth.

In the Asia-Pacific region, the Australian government took the initiative to fund five international centres of excellence to profile expertise internationally. Similarly, current policy developments in Korea aim at establishing 10 world-class research-centred TEIs by 2012 to open to the international market, while New Zealand also funds seven centres of research excellence.

In continental Europe, the weak representation of TEIs in two of the best-known global rankings systems – only four TEIs in the 2007 Shanghai and Times Higher top-50 – has prompted policy reflection and action in both EU and national government circles, with proposals for greater investment in European tertiary education and research and for the further concentration of funding in networks and centres of excellence (Marginson and van der Wende, 2007b). For instance, the recent creation of the Paris School of Economics in France – a private TEI gathering top-academics from the various Parisian universities – aims at positioning itself in the world elite to compete with its London counterpart. Similarly, public policy in the Netherlands is directed towards stimulating

excellence in its areas of strength, with international students as the target group. Finland also benefits from strong and well-funded graduate programmes in health, scientific and technological disciplines.

Co-operation and mobility programmes

Institutionalised mobility programmes are another way to promote the attractiveness of national or regional education systems. For instance the Erasmus Mundus programme – which seeks to promote intercultural understanding through co-operation with third countries – also improves the visibility and attractiveness of European tertiary education in third countries.

Grant schemes targeting international students/scholars

In addition to high-profile centres of excellence and mobility programmes, the availability of scholarships and loans is a strong incentive to attract international students. In the European Union, the Erasmus Mundus programme provides EU-funded scholarships for third country nationals participating in its Masters courses, thereby enhancing the attractiveness of European tertiary education world-wide. High-achieving students are especially courted, and several countries have developed schemes to offer financial support to gifted international students. This is the case in Australia, China, Estonia, Japan, Korea, the Netherlands, New Zealand, Portugal, Sweden and the United Kingdom (Table 10.3). In Norway, financial support for doctoral students takes the form of four-year employment contracts to ensure social security entitlements. The importance of these schemes varies between countries however. Marginson (2007) notes for instance that more than four graduate students in ten receive university or government scholarships in the United States, while government foreign aid scholarships represent less than 1% of international enrolments in Australia.

Among countries where high fees are charged to international students (Figure 10.3), the United Kingdom increased the number of Chevening scholarships in 1999, set up a scholarship scheme to assist some able students and also funds a special scheme for outstanding research students. Similarly, the Australian government introduced the Endeavour Programme in 2003 in an attempt to attract high-achieving individuals into Australian academia through scholarships for international post-graduate research students. In Korea, a similar scholarship programme exists – but it is limited in scope.

In addition to scholarships, New Zealand also provides domestic student status to international PhD students, allowing them to pay lower tuition fees. In Australia, loan schemes are available to help overseas-trained professionals acquire Australian qualifications through the FEE-HELP loan scheme.

In continental Europe – were tuition fees are traditionally lower – scholarship schemes are also used to attract international students. Current reforms in the Netherlands aim at expanding and streamlining the Huygens scholarship programme to attract top quality students. In Portugal, financial support is limited to graduate students.

Interestingly, there seems to be less support to attract top academics/researchers in national education systems. One noticeable exception is Belgium (Fl. community), where the Odysseus programme provides funds to help TEIs attract excellent researchers from abroad.

Opportunities for work to finance studies abroad

Another policy-lever by which host countries can make their tertiary education system more attractive to prospective international students is their policy regarding possibilities for taking up part-time work while studying. Indeed, this source of income may help international students finance part of the cost of study abroad. South American students underlined the importance of this source of additional income during the Spanish country visit of the Review. As a result, study destinations where opportunities exist for part-time work during studies benefit from a competitive advantage relative to alternative destinations. This awareness led the United Kingdom to ease restrictions on work whilst studying in 1999.

A number of countries allow their international students to work on a part-time basis during their studies, albeit with differing levels of control (Table 10.4). Finland and Sweden appear to be the most liberal countries since international students do not even need a work permit. By contrast, China and Spain are the most restrictive with part-time work fully forbidden in China, and requiring proof that it does not prejudice the studying goals in Spain. Other countries require a work permit, for all international students in Australia, Japan and the Russian Federation, and only for non-EU/EEA[54] students in the EU and EEA countries.

Host countries often impose restrictions on working hours. Sweden is the most liberal country in this respect with no limits on working hours, followed by Japan where undergraduate international students can work up to 28 hours per week during semesters. In Australia, Belgium, Finland, France, Greece, Korea, New Zealand, Norway, Poland, the Russian Federation and the United Kingdom, international students can work up to 19-20 weekly hours during semesters and full-time during study breaks. The permitted weekly hours are more restrictive in Iceland, the Netherlands, Switzerland and Japan for research students. Korea also imposes restrictions on the type of activities that international students can perform.

54 The European Economic Area (EEA) agreement was negotiated in 1992 between the EC, its then member states and 7 member countries of the European Free Trade Agreement (EFTA). Following the enlargement of the EU, the EEA was maintained to allow the three remaining non-EU countries – Norway, Iceland and Liechtenstein – to participate in the internal market while not assuming the full responsibilities of EU membership. The EEA agreement contains provisions to allow cooperation between signatory states in a range of activities including research and technological development and education.

Table 10.4. Possibilities for international students to work: legal framework

Country	Conditions/restrictions	Source
Australia	- Need a work permit: students can apply for permission once they commence their courses - Maximum 20 hours per week - Full-time work during breaks	http://studyinaustralia.gov.au/Sia/en/StudyCosts/Working.htm
Belgium	- Need a work permit (non EU/EEA students) - Maximum 20 hours per week - Full-time work during breaks	www.kuleuven.be/jobstudent/pdf/Student_employment.pdf
China	- Foreign students cannot be employed in China while attending school in China	www.study-in-china.org/site2/culture/content.asp?id=1351
Czech Republic	- Foreign students on a study visa (*i.e.* non EU/EEA students) cannot be employed	Law No. 326/1999, §64 and Law No. 435/2004, §98
Finland	- No need for a work permit - Maximum 20 hours per week - Full-time work during breaks	www.helsinki.fi/rekry/materiaalit/students_guide.pdf www.varsityadmission.com/Foreign/Country/Finland/
France	- Need a work permit (non EU/EEA students) - Maximum 19.5 hours per week - Full-time work during breaks	www.edufrance.fr/en/a-etudier/sejour01-6.htm
Greece	- Need a work permit (non EU/EEA students) - Maximum 20 hours per week	www.imepo.gr/documents/Nomos3386_en.pdf
Iceland	- Need a work permit - Maximum 10 hours per week - Full-time work in June-August	www.ask.hi.is/page/work
Japan	- Need a work permit - Maximum 28 hours per week (university and college students) or 14 hours per week (research students) - Up to 8 hours per day during breaks	www.jasso.go.jp www.varsityadmission.com/Foreign/Country/Japan/
Korea	- Need a work permit - After one semester of studies - Selected activities - Maximum 20 hours per week - Full-time work during breaks	www.studyinkorea.go.kr
Netherlands	- Need a work permit (non EU/EEA students) - Maximum 10 hours per week - Full-time work during June, July and August	www.studyin.nl/preparing-to-stay/Working-while-studying.html
New Zealand	- Need a work permit - Maximum 20 hours per week - Full-time work during breaks	www.minedu.govt.nz/index.cfm?layout=document&documentid=9468&indexid=6671&indexparentid=6663&goto=00-04#P752_74861
Norway	- Need a work permit (non EU/EEA students) - Maximum 20 hours per week - Full-time work during breaks	www.studyinnorway.no/sn/study_in_norway/student_residence_permit/working_permit_for_students
Poland	- Need a work permit (non EU/EEA students, except 3 months holiday employment) - Maximum 20 hours per week - Full-time work during breaks	www.studyinginpoland.com/faqs www.wsg.byd.pl/cwz/cwz-eramzus.htm
Portugal	- Need a work permit (non EU/EEA students)	www.dges.mctes.pt
Russian Federation	- Need a work permit - Maximum 20 hours per week - Full-time work during summer break	www.varsityadmission.com/Foreign/Country/Russia/
Spain	- Foreign students cannot carry out any paid activity unless it doesn't impair the studying aims	www.learn4good.com/travel/es_visa.htm#can%20i%20work
Sweden	- No need for a work permit - No limitation of hours	www.studyinsweden.se/templates/cs/Article____4978.aspx www.migrationsverket.se/english.jsp?english/eeu/efamilj_euees.jsp
Switzerland	- Need a work permit (non EU/EEA students) - After 6 months of study - Maximum 15 hours per week	www.ects.ch/engl/Study.html
United Kingdom	- Need a work permit (non EU/EEA students) - Maximum 20 hours per week - Full-time work during breaks	www.ukvisas.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1018721067373#Q10

Policies related to language of instruction

Policies allowing TEIs to deliver part or all of their educational programmes in a foreign language may also help attract international students who are not fluent in the language of instruction. This policy tool may be especially useful for countries wishing to attract international students in scientific disciplines, given that the latter are usually less likely to be fluent in many different languages and more prone to enrol in countries offering education programmes in English.

The delivery of tertiary education programmes in a foreign language is permitted by the national policy framework in the vast majority of non-English speaking countries taking part in the Review: Croatia, the Czech Republic, Estonia, Finland, Iceland, Japan, Korea, the Netherlands, Norway, Poland, Portugal, the Russian Federation, Spain, Sweden and Switzerland (Table 10.3). Belgium (Fl. community) also allows TEIs to deliver part of their programmes in a foreign language in master programmes. In most countries, this actually translates into English-language instruction, although there is evidence of Chinese-taught programmes in the Netherlands (Surf Foundation, 2007).

In Europe, the growth of English-language instruction was fostered by the restructuring of degree structures as part of the Bologna reforms through the introduction of new English-taught bachelor and master programmes (van der Wende, 2001). A growing number of courses and programmes are offered in English in Belgium (Fl. community), Norway and Sweden, while positive developments have occurred in Portugal where English-language programmes were virtually inexistent until now (OECD, 2007a. This trend is especially significant at Master level, *e.g.* the majority of Dutch Masters programmes are offered in English and their students can prepare their dissertations in either Dutch or English. Similar growth in English-taught courses and programmes took place in Korea where 7.5% of university classes were already taught in English in 2000 (MoE, 2001). Korean TEIs adopted an interesting policy to attract international students, whereby they commit to teach classes in the English language whenever one international student is enrolled.

But the provision of instruction in foreign languages is not the only way to overcome language barriers. An alternative strategy is to assist prospective international students in familiarising themselves with the language of their host country. In this respect, Japan provides preparatory language education – ranging from 6 months to 2 years duration – to future international students in a number of East-Asian and Middle-Eastern countries (Huang, 2006). In Sweden and Portugal, language courses are provided once international students arrive in the country.

Support to international students/faculty

Finally, a number of policies of support to international students and academics – and most prominently those facilitating their immigration formalities, helping them find accommodation, or providing them with specific support services – can help make their study/work abroad experience more enjoyable. Such policies have a powerful impact on mobility flows through the feedback – positive or negative – of past international students or academics to their friends contemplating study/work abroad.

In acknowledgement of this, Portugal adopted a new legal framework for foreigners in July 2007, which sets up a simplified regime for the admission of scientists, university professors and highly qualified foreigners who intend to work in Portugal – whether temporarily or permanently. The new regime lays down specific rules on entry, stay, exit

and removal which apply to foreigners intending to carry out research, teach in a TEI or perform a highly-skilled activity in Portugal.

The recent experience of the United States illustrates the power of student feedback to their peers. The United States experienced in 2004 its first decline in international student enrolments since 1971, and 40% of TEIs that faced a fall in under-graduate enrolments blamed it on visa delays or denials in the aftermath of the events of 11 September 2001 (Lee *et al.*, 2006; OECD, 2005a). Lee *et al.* indicate that the unwillingness of some international students to submit themselves to what they perceived as humiliating and unnecessary responses to 9/11 has pushed many of their friends and relatives to seek post-secondary experiences in Australia, New Zealand and Europe.

Dissatisfaction with immigration formalities is not limited to the United States. Puustinen-Hopper (2005) reports considerable dissatisfaction with the Finnish immigration formalities by international Ph.D. students and researchers. Similar complaints have also been voiced in the Netherlands and the United Kingdom in terms of lengthy and costly visa applications. In the United Kingdom, a recent survey estimated at £18.5 millions the potential loss of tuition and related revenues resulting from initial visa rejections, while a third of non-EU international students indicated they would look at other destinations were visa procedures to become more cumbersome and/or costly (UK Council for International Education, 2006). Van Aken (2001) also finds that the mobility of international students is hampered to varying degrees by visa problems in Denmark, France, Germany, the Netherlands and the United Kingdom.

As a result, a number of countries have adopted specific visa policies or quotas to ease the conditions of entry of international students. This is the case of Estonia, the Netherlands, Poland, Portugal, Spain, Sweden and Switzerland (Table 10.3). In Portugal, special access arrangements exist for students from Portuguese-speaking ex-colonies and descendants of Portuguese emigrants. France and the United Kingdom have also attempted to streamline their immigration formalities for international students (Lupieri, 2007).

But the unique needs of international students require specific support beyond immigration formalities. Kher *et al.* (2003) show how many support services – including admission, registration, residence life and dining – do not cater to the unique needs of international students in the United States, despite their greater needs. Lloyd (2003) notes difficulties of international students in finding suitable accommodation, dealing with enrolment procedures or finding social support, while Pritchard and Skinner (2002) in the United Kingdom and Grey (2002) in Australia report difficulties in forging friendship with natives. This strand of research calls for better support and pastoral care for international students.

The Czech Republic, Estonia, Finland, Japan, Korea, New Zealand, Norway, Poland, Portugal, the Russian Federation, Spain and the United Kingdom have adopted national policies or schemes of specific support for international students (Table 10.3). Such support ranges from financial support to TEIs to build dormitory infrastructures in Korea to more comprehensive codes of practice for the pastoral care of international students in Estonia, the Netherlands and New Zealand.

New Zealand policy is exemplary in this respect. All university staff and agents – including those offshore – are subject to a *Code of Practice for the Pastoral Care of International Students*. This code covers a broad range of areas where international students need support: educational and linguistic preparation; assistance to adapt to a new

cultural environment; advice in relation to accommodation, travel, health and welfare; information and advice on addressing harassment and discrimination; monitoring of student attendance and course progress, and mandatory communication with the families of students at risk. The enforcement of the code is assured through an independent public agency – the International Education Appeals Authority (IEAA) – which receives and arbitrates complaints from students. In the Netherlands, a similar 'code of conduct regarding international students in the Netherlands' was adopted in 2006 which commits signatory TEIs to provide adequate information to international students in relation to programmes, fees, housing and other issues that in the past have been the cause of complaint.

Encouraging the mobility of domestic students

Improving the attractiveness of the tertiary education system to international students and academics is only one aspect of mobility optimisation. Most countries participating in the Review are equally eager to encourage their domestic students to go abroad in order to develop their linguistic and cross-cultural skills and enhance the competitiveness of their future labour force.

Travel regulations

The first and foremost policy lever in this respect relates to foreign travel regulations. Although the situation does not apply in most countries where citizens are free to travel internationally, one has to remember that the freedom of international travel is a pre-condition for encouraging the mobility of domestic students. In Korea, this is a relatively recent feature since the liberalisation of overseas travel only began in 1989. The free mobility of students and academics is also fairly recent in the Czech Republic, Croatia, Estonia, Poland and the Russian Federation where the directions of student mobility flows were restricted by ideology until the early 1990s. In China, ordinary citizens have only been able to hold a passport since 1985 (Tremblay, 2005). It is also important to note that even in situations where authorisations to travel overseas for study-related purposes would be automatically granted, the possibility for relatives to visit international students may alter their decisions by lowering mobility-related anxieties.

Language abilities

The development of language abilities among the domestic student population is another tool by which countries can enhance the outward mobility of their domestic students. Indeed, it has been shown that the higher students rate their foreign language proficiency, the higher is their participation in international mobility (European Commission, 2005). Yet, language abilities of students are to a large extent the result of previous foreign language education as well as other connected policies (*e.g.* dubbing of Anglo-Saxon TV programmes). But some tertiary education policies may provide incentives for students at lower levels to invest time and efforts in their foreign language classes. In Korea for instance, proficiency in foreign languages is required to earn a tertiary post-graduate degree, with a requirement of passing one foreign language exam for a Master and two foreign language exams for a Doctorate degree. Accordingly, nearly 4 out of 10 Korean studying abroad are enrolled in language programmes. In Sweden, students receive intensive foreign language preparation in preparation for study abroad.

Recognition and credit transfer systems

Recognition policies and credit transfer systems are also key factors to enhance student mobility. Within Europe, regional provisions for the recognition of foreign qualifications and degrees have removed obstacles to the outward mobility of students to neighbouring EU countries (European Community, 1989). As an illustration, the European-wide recognition of medical degrees leads a number of students to enrol abroad to bypass the *numerus clausus* applicable in their country of origin. Yet, the situation is less favourable when it comes to the recognition of degrees earned outside of the EU area. For instance, there are concerns in the Netherlands that the machinery for assessing and recognizing foreign qualifications is cumbersome, possibly impairing the mobility of Dutch students outside of the EU area. Similar difficulties exist in a number of Asia-Pacific countries, including Korea, where the UNESCO Regional Convention on the Recognition of Studies, Diplomas and Degrees is not fully implemented.

Credit transfer systems are another useful tool to enhance the outward mobility of domestic students for shorter durations than a full degree programme. The main policies in this area relate to the establishment of regional credit systems at the broader European level (ECTS) and in the Asia-Pacific region (UCTS), as described above. But national policies vary as to the proportion of credits which can be transferred from abroad. Korea changed its legislation in 2000 to allow Korean students to transfer up to half of the credits needed for graduation in Korean universities from abroad.

Support to international mobility of domestic students

Finally, a powerful incentive for students to enrol abroad is financial support. With the exception of Greece, Poland, the Russian Federation and the United Kingdom, all participants in the Review provide some form of financial support to encourage the outward mobility of their domestic students (Table 10.3). But, the coverage, extent and form of this financial support vary greatly across countries.

Some countries only support the additional travel and living costs incurred by study abroad. This pattern of financial support with grants/loans covering all or part of travel and living costs is found in Australia, the Czech Republic, Estonia, Iceland and Spain (with a mix of general and specific grants and loans). In Australia for instance, the government funds a number of under- and post-graduate scholarships under the Endeavour Programme to help Australians study abroad in recognition of their comparatively low international mobility. In addition, the Overseas Study HELP income-contingent loan allows eligible students to undertake some of their course overseas. In the European Union, the Erasmus Mundus programme also offers scholarships for EU nationals studying at partner TEIs throughout the world.

Portability of grants/loans

In stark contrast, Belgium (Fl. community), Chile, China, Croatia, Finland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Portugal, the Russian Federation, Sweden and Switzerland support the total cost of study abroad, *i.e.* tuition and living cost. In the most liberal systems, the general support schemes are fully portable internationally and students can choose to enrol in an institution in their country or abroad. This is the case in Belgium (Fl. community, with restrictions), Chile and Finland (Eurodoc initiative).

Norway is an interesting example of portable grants and loans. Students wishing to pursue studies in a foreign country have a right to financial support to cover tuition fees charged by foreign TEIs, up to a certain level and on the condition that the programme be fully recognised in the host country. The tuition funding is given partly as a grant and partly as a loan. In addition, they are entitled to the standard financial aid package which is fairly generous by international standards – with a total basic monthly amount of about EUR 1 000 in 2002/2003 for living costs compared to a maximum of EUR 350 for Polish students for instance. Similarly, the Icelandic student loan scheme does not discriminate between students enrolled in Iceland or abroad, and stands out for its generosity. Countries usually impose restrictions on the portability of grants and loans. In the Netherlands and Sweden, it is conditional on quality assurance requirements of the host TEI. In Portugal, portable grants are restricted to doctoral and post-doctoral studies abroad. In New Zealand, portable scholarships and post-doctoral fellowships also target high-performing research students and outstanding scientists, while in Chile, China, Croatia and Mexico, the portability of grants is conditional upon a commitment from students to return to their home country (Table 10.3).

Maximising returns of internationalisation

The encouragement of incoming and outgoing student mobility need to be seen within the broader context of the national approaches to internationalisation. Indeed, a number of policy tools can help countries reap the full benefits from internationalisation, and hence maximise its returns.

Tuition fee policies and their impact

The first and foremost is the tuition fees policy, and the level of fees applied to international students. Charging the full cost of education to international students may provide a useful source of revenue for TEIs, and contribute indirectly to the financing of the education system through economies of scale that enable to cross-subsidise the education of domestic students. It can also represent a noticeable contribution to services exports. At the same time, while this policy is fairly easy to implement in countries where the demand from international students is sustained – *e.g.* English-speaking destinations – it may be counter-productive in countries with lesser natural appeal to international students and higher elasticity of international enrolments to the cost of studies. Indeed, increasing tuition fees could in that case deprive the host country from the externalities of international enrolments in terms of internationalisation at home. On the other hand, international students may represent a high financial burden for countries where tertiary tuition fees are low or inexistent given high unit costs in tertiary education (Gerard, 2007; Del Rey, 2001). The possible adverse impact of increasing tuition fees then needs to be balanced against the financial burden of subsidising the tertiary education of international students in systems facing strong financial pressures due to the expansion of tertiary participation.

A number of countries have adopted national policies allowing (or sometimes, compelling) TEIs to charge higher or full-fees to international students. This is the case in Australia, Belgium (Fl. community), China, Croatia, the Czech Republic (for study programmes delivered in foreign languages), Estonia, Greece, Mexico, the Netherlands, New Zealand, Poland, the Russian Federation and the United Kingdom (Table 10.3). Yet, most of these countries have adopted provisions to grant domestic fees to some categories of international students in accordance with their national goals. In the EU member

countries, this is the case for other EU and EEA citizens, although the United Kingdom restricts this exception to students from the sole EU. China also grants domestic status to nationals from Hong-Kong, Macao and Taiwan, while Belgium (Fl. community) does so for students originating from developing countries. New Zealand also grants domestic status to research and PhD students in a drive to attract them in the country. Interestingly, the countries which charge full-fees can be divided in two groups reflecting the rationales discussed above.

The first group comprises Anglo-Saxon destinations as well as the Netherlands – a country offering a large number of programmes in English – and is clearly driven by revenue-generating motives. Full-fee policies can provide a useful policy lever to encourage TEIs to recruit and enrol large numbers of international students. In the Netherlands for instance, tuition fees for a Masters in engineering are about 5.5 times higher for non-EU/EEA students than for their EU counterparts. High fees do not necessarily discourage international students as long as the quality of education provided and its likely returns for individuals make the investment worthwhile, as illustrated by New Zealand's three-fold increase in international enrolments between 2000 and 2004 despite a 24% increase in average international fees over the period. However, levels of tuition fees may play a role when students choose between similar educational opportunities abroad, and may explain the low progress of foreign enrolments in the United Kingdom and the United States between 2000 and 2005 in the context of fierce competition from other primarily English-speaking destinations offering similar educational opportunities at a lower cost (OECD, 2007a).

The second group of countries charging higher or full-fees to international students includes – with the exception of Belgium (Fl. community) – countries with lower income per capita than the OECD average where the financial pressure incurred by international students may be more difficult to bear (OECD 2007a). But debates on the rationale for subsidising the education of international students also take place in more affluent countries like Belgium (Fl. community), Finland and Sweden as a result of rapid growth in international enrolments and related costs (Gerard, 2007; Del Rey, 2001). In Sweden for instance, the pressure of applications from non-EU/EEA countries has led the government to consider the implementation of fees as a way to limit the burden on taxpayers.

Other countries have chosen not to impose higher fees to their international students. Although the rationale for publicly-subsidising the education of foreigners may be questioned, this would be understating the non-tuition benefits of incoming student mobility in terms of trade and externalities on domestic students and immigration intake.

Trade value of internationalisation

The internationalisation of tertiary education – and in particular student mobility and the cross border activities of TEIs – yield economic benefits related to the trade value of cross-border education provision (OECD, 2004). Tuition fee policies are a major element of the overall impact of internationalisation on the trade balance. As a matter of fact, several countries have actually made international education an explicit part of their socio-economic development strategies and charge full-fees to international students to generate trade benefits. In New Zealand, export education has become the 3rd largest services export earner, and was worth NZ$ 2.2 billion in 2004. Similarly, a 2007 study estimated that international students in tertiary education in the United Kingdom contributed about £5 billion in tuition fees and other spending in 2003/2004 (British

Council, 2007b). But Asteris (2006) argues that the real contribution of education services exports to the external account – and by extension for the economy – is in fact more important than these estimated amounts suggest. This is due to the very small import content of education services relative to other exports and the small amount of overseas remittances incurred since TEIs are generally owned by nationals. For their part, Greenaway and Tuck (1995) draw attention to the commonality between trade and student mobility links, arguing that international students are more likely to favour their country of study later in life.

But the trade value of internationalisation goes beyond tuition fee revenues through associated spending of international mobile students who can make a significant contribution to the local economy. In New Zealand for instance, it is estimated that just under half of the total trade value of export education in 2002 went to New Zealand's wider community through the creation of 10 000 full time jobs, increases in property values and its positive impact on tourism as friends and relatives visit international students (Asia 2000 Foundation, 2003). At the local level, Dockery *et al.* (1999) estimate that the 1 957 international students enrolled at Curtin University of Technology in 1994 generated approximately 1 000 jobs in Western Australia. In New Zealand, the city of Dunedin is a good illustration of the downstream impact of internationalisation for smaller campus cities, with 2 000 international students contributing to the local economy of a city of 110 000 inhabitants through accommodation and living expenses.

Externalities deriving from internationalisation in R&D

In addition to externalities on the local economy, the international mobility of academics and students – especially those in research programmes – can yield positive externalities in terms of R&D. These externalities are of several kinds (see Chapter 8).

Firstly, the international mobility of academics and students fosters international networks and yields externalities in terms of technology transfer, sharing of scientific equipment and greater scope for cooperation. In acknowledgement of these externalities, Korea funds scholarships to under-graduate engineering students wishing to study abroad, with an aim to increase networking between human resources in technical fields and strengthen cooperation in developing the latest technology.

In addition, international students can make a significant contribution to research. In this respect, Australia, Switzerland and the United Kingdom benefit most from this externality among countries participating in the Review – with more than 30% of tertiary-type A second degrees or advanced research degrees awarded to international students. The contribution of international students is also significant in Belgium, Japan and New Zealand (OECD, 2007a).

Lastly, a third type of externality derives from the contribution of international students to the viability of some post-graduate programmes, as is the case in the United Kingdom.

Immigration policies targeting international students and scholars

Another policy-tool through which countries can leverage the returns of internationalisation is their immigration policy. Indeed, the growing demand for skills from the new economy implies that most developed countries face long-term risks as a result of their ageing populations, increased competition for skills in the global labour

market, and specific skills shortages. Most worrying, according to Douglass (2006) is the rise of new high-technology industries and research clusters outside of the traditional hegemony regions, which might lessen the ability of the United States as well as other developed countries to attract foreign talent in the future. In this perspective, allowing international students to stay in their country of study to work can be critical to build a skilled workforce for the future.

All countries participating in the Review except China, Mexico, the Russian Federation and Switzerland allow international students to apply for a work visa upon graduation. However, the conditions for doing so differ to a great extent. Indeed, while international students are subject to the same conditions as other prospective immigrants in Belgium (Fl. community, with the exception of researchers), Chile, Croatia, the Czech Republic, Estonia, Greece, Poland and Sweden, specific schemes/conditions easing their entry have been set up in Australia, Finland, Iceland, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal and the United Kingdom (Table 10.3). For instance, the Netherlands has established a 'fast-track' procedure whereby all foreign students and other prospective knowledge migrants deal with just one government authority and are issued the same type of permit.

In Australia, Finland, Iceland, Norway, Portugal and the United Kingdom (under the new *International Graduate Scheme*), these specific conditions apply to all international graduates without restriction. Other countries have however confined these preferential entry schemes to graduates from specific countries[55] or working in specific fields or occupations (Korea). In addition, these schemes are often limited in time, with international students granted a specific period to find a job (Finland, Japan, the Netherlands, New Zealand, Norway, the United Kingdom).

Benefits for sending countries

But countries may also generate returns to internationalisation by sending students abroad, through knowledge and technology transfers. In this respect, Kim (1998) shows within the framework of an endogenous growth model that developing countries can benefit from international student mobility through the import of advanced knowledge – embedded in returning students – which contributes to the accumulation of human capital and hence economic growth. His empirical tests confirm that sending students abroad in technology-related fields is beneficial for middle-income countries[56], provided that these students actually return to their home country upon completion of their studies.

Ensuring the sustainability of international strategies

The last policy challenge in terms of optimising mobility flows relates to the sustainability of internationalisation strategies. The rapid growth in international enrolments in some countries has indeed raised concerns related to possible risks deriving from the volatility of student mobility flows. Not only do they respond to perceived changes in the quality of service offered, tuition fee levels, costs of living or immigration

55 The most obvious example is the free mobility of EU citizens throughout the EU area.

56 Results show that the number of students enrolled in a developed country is significantly and positively associated with the sending country's growth rate, provided the income gap between the 2 countries is neither too small nor too large. But this positive contribution only holds for international students majoring in technology-oriented fields.

legislations in the various study destinations, but a number of changes are currently taking place that might alter the position of some key players on the international education market in the coming years.

First of all, a number of emerging economies that initially used student mobility to overcome limitations in domestic provision are now in a position to expand their own capacity, and accommodate students that would formerly have studied abroad. Asteris (2006) estimated that a number of local TEIs which have developed through collaborative programmes might be able to reach complete autonomy within a decade. In addition to this process of import-substitution, there is also growing competition among providers of international education, within the OECD area with increasing provision of tertiary programmes in the English language, but also in the Middle-East and South-East Asia at a much lower cost than in traditional destination countries (Harman, 2006). Lastly, global shocks can make student mobility flow highly reactive, as the recent history highlighted. Indeed, students mobility flows have exhibited significant shifts across providers as a result of the Asian crisis in 1997-1998 and later on in the aftermath of the events of 11 September 2001. For instance, the United Kingdom incurred a drop in non-EU international enrolments of over 10% when the Asian crisis hit, while the country later benefited from the post-September 11 tightening of visa entry conditions in the United States (Asteris, 2006).

TEIs in Australia and New Zealand are increasingly aware of the risks deriving from possible fluctuations in international student numbers and the impact this could have for their financial sustainability in the event of a sudden decline. Of particular concern is their over-reliance upon a limited number of countries of origin. New Zealand and the United Kingdom have therefore launched policy initiatives to diversify the country base of their international intake in order to reduce risks.

But the issue of sustainability is also relevant for sending countries. In Korea for instance, the growing numbers of students going overseas to study represents a serious threat to the finances of domestic TEIs.

10.3.2 Preserving access and ensuring equity

Another challenge for policy makers is to ensure that internationalisation policies remain compatible with equity objectives. These are twofold. First, internationalisation policies need to ensure that the intake of international students does not displace or limit the access of domestic students to tertiary studies. In addition, the additional costs incurred by study abroad imply that tertiary education policies need to warrant that international options are open to all students irrespective of their socio-economic background.

Displacement of domestic students

The presence of international students brings numerous benefits to host TEIs. First of all, the presence of a potential international client base compels them to offer highly reactive, client-driven and high-quality programmes that stand out among competitors. In addition, international enrolments bring in an international perspective to campus life and thus contribute to internationalisation at home goals. They can also help TEIs reach the critical mass needed to diversify the range of educational programmes offered. Lastly, they increase TEIs' financial resources when international students bear the full cost of their education. Given these advantages, concerns have been voiced as to possible

negative side-effects of internationalisation, whereby TEIs would have an incentive to recruit international students at the expense of domestic students. For obvious incentive reasons, it would then be expected for this issue to be more prominent in countries that charge the full-cost of tertiary education to international students in a revenue-generating perspective. Indeed, when TEIs receive more revenue per capita from international than domestic students, they have clear incentives to recruit the former than the latter.

There is however no evidence so far of such a phenomenon of displacement of domestic students by international students in OECD countries at the aggregate level (OECD, 2004). In Australia for instance – where financial incentives are strong for TEIs to enrol international students – the legislation contains provisions for the enrolment of fee-paying international students *beyond* the government-funded places reserved for domestic students, and not *instead*, thus prohibiting the displacement of government-funded domestic students. This is confirmed by a recent audit on the impact of international students in universities in Victoria, which concluded that there is no displacement of domestic students by international students (Auditor General Victoria, 2002). In the United States, Borjas (2004) also found little evidence of a crowd-out effect in US graduate programmes at the aggregate level, *i.e.* for the typical US-born student.

The situation is however less clear-cut when looking at particular TEIs. Indeed, Borjas (2004) claims that at institutional level, foreign students have displaced US-born white men from post-graduate studies, with the crowding out increasing significantly with the elitist and prestigious character of the TEI. The situation of elite universities is indeed likely to be different given the strong demand from international students for study places in high-status TEIs (Lee *et al.*, 2006).

The growing importance of global rankings is likely to galvanise concerns related to the displacement of domestic students in the years to come – as elite TEIs will come under increasing pressure from international students – even though the aggregate situation could be fairly different with international students filling the gap resulting from the projected decline in domestic demand in many OECD countries. In the context of ageing populations, internationalisation is therefore quite likely to become an issue of survival for TEIs rather than a source of displacement.

Socio-economic characteristics of international students and mobility support schemes

Another dimension of equity relates to the composition of the international student body. Indeed, international education incurs additional costs relative to domestic study. In the case of trans-national education, tuition fees charged by foreign TEIs usually exceed domestic fees, while international student mobility incurs the additional costs of travel and accommodation for the duration of the study abroad period. These costs may discourage students from poorer backgrounds from taking part in international education despite its positive outcomes for individual participants.

Yet, little is known on the socio-economic characteristics of students who take part in international education – and especially its costliest form of study abroad for a full degree – relative to students who do not take part in international mobility.

A recent survey on the socio-economic background of Erasmus students provides some indication of the socio-economic characteristics of European students taking part in this short-term mobility scheme, and sheds light on the existence of equity issues in short-term student mobility within the European context (European Commission, 2006). Indeed, 61% of the 15 000 Erasmus students surveyed had at least one parent working in

high level occupations in 2004/2005 while these occupations accounted for only 39% of the employed labour force in the EU-25 area (Eurostat, 2006). In the UK, a study of outgoing Erasmus students shows that they are more likely to be younger, female, white and from families in the higher social classes when compared to non-mobile students, for whom finance is the main barrier to mobility (Sussex Centre for Migration Research *et al.*, 2004). But these figures are likely to understate the real extent of equity issues given that the Erasmus programme focuses on short term-mobility – the average duration of study abroad was 6.5 months among respondents of the Survey – and the financial burden of international student mobility is obviously higher for full-degrees, when students pay tuition fees in their host TEI.

In this latter respect, another study covering all international students in Europe – *i.e.* Erasmus students as well as free-movers – confirms that students from low-educated families make substantially less use of the opportunities for studying abroad than those from families with higher educational attainment. The differences in mobility participation rates between students from privileged and under-privileged families are highest in Spain (15 *vs.* 6% respectively) and Finland (18 *vs.* 12%) while France and Portugal display more homogenous participation rates in international mobility (European Commission, 2005).

Equity issues in internationalisation can in principle be addressed through means-tested grants and scholarships. However Andere (2004) deplores that the wide use of merit-based scholarships to finance student mobility is regressive from an equity perspective because in many countries, the best performing students are overwhelmingly drawn from high-SES backgrounds. Unfortunately, the mobility grants and scholarship schemes available in countries participating in the Review tend to be overwhelmingly awarded on the basis of academic merit, with the exception of Norway where study grants are universal, and Australia where the Overseas Study HELP income-contingent loan allows eligible students to undertake some of their course overseas. As a result, this equity issue is generally not addressed.

10.3.3 Ensuring quality and protecting customers

The third challenge for policy makers is to ensure quality and protect participants in international activities. There are three important aspects of the discussion of quality and internationalisation. The first relates to the impact of internationalisation activities on educational quality, the second examines how to assess and enhance the quality of international initiatives, while the third explores how quality can serve internationalisation objectives as a marketing instrument towards international customers.

Impact of internationalisation on education quality

With respect to the impact of internationalisation on education quality, there is in general wide consensus on the benefits brought about by internationalisation in terms of enhanced comparability of degrees and as a result, easier benchmarking against international standards. This benchmarking function is a strong rationale for internationalisation, both in Europe as highlighted in the Bologna declaration and in Asia-Pacific countries (Bologna Secretariat, 1999; Knight and de Wit 1997).

There is also wide recognition of the impact of internationalisation on the content of tertiary curricula. In Iceland for instance, it is acknowledged that the growth in international enrolments enriched the content of curriculum offered and had an evident

influence on the growth in courses taught in English. Knight (2001) notes however that an implicit assumption in this positive impact is that enhancing the international dimension of teaching and research is a must in a global environment in which understanding and knowledge of the impact of globalisation are critical.

Another benefit of internationalisation relates to prestige. Cederlund (1999) notes indeed the high symbolic value and impact of international agreements on the perceived quality and prestige of TEIs.

However, internationalisation also creates new challenges for TEIs, and several authors have questioned possible adverse impact on tertiary education quality resulting from internationalisation.

A first range of concerns derive from the growing reference to international standards. While such standards enhance the credibility of TEIs and systems, they can also be a double-edged issue and legitimate concerns have arisen as to and the risks of standardisation – or "McDonaldisation" – of tertiary education and homogenisation of world culture along Western values that can result from an excessive emphasis on internationally recognised standards (Knight, 2001; Knight and de Wit 1997).

Another source of concern which has been raised in Korea relates to the quality of courses and programmes offered in a foreign language. Reports suggest indeed that the lack of qualified English teachers and the absence of a monitoring system raise significant quality issues in some language programmes operated by Korean TEIs (KEDI, 2006).

Other apprehensions in relation to the impact of internationalisation on quality are generally related to the presence of international students. Indeed, concerns have arisen in several highly internationalised countries as to the capacity of the system to absorb and cater for large international student communities. Such concerns have been especially acute given the uneven spread of international students across TEIs and fields of study, resulting in high proportions of international students in some TEIs/programmes. In Australia for instance, the share of international students varied widely across TEIs in 2005 – from a low 4% to as high as 60% of enrolments.

The most common allegations relate to lowering entrance standards as TEIs attempt to recruit more international students (ACA, 1997), insufficient language skills of international students (New Zealand Universities Academic Audit Unit, 2003) and additional demands being placed on academic staff, all of which result in some courses being abridged to accommodate students with poor preparation and inadequate language skills, and therefore impacting adversely on the outcomes of both domestic and international students (Gezentsvey, 2003; New Zealand Universities Academic Audit Unit, 2000). With respect to academics mobility, Borjas (2000) also claims that foreign-born teaching assistants have an adverse impact on the class performance of under-graduate students due to insufficient language proficiency. Lastly, Lee *et al.* (2006) argue that there is also an opportunity cost of focusing on international students, with resources being moved away from work in the area of local outreach and services to local students towards international recruitment and services to international students.

Yet, evidence of such a negative impact of internationalisation on quality is far from straightforward. With respect to entrance standards, Pimpa (2005) shows that entry requirements is one of the benchmarks used by prospective international students to judge the quality of foreign TEIs, which suggests that TEIs willing to attract them would have an incentive to raise rather than lower their entry requirements. New Zealand data also suggest that the quality of international students is not an issue since they display higher

completion rates in 5 years than domestic students – at 43% compared to 39%. Olsen *et al.* (2006) reach similar conclusions in Australia, where there is no difference overall between domestic and international students, and where the latter even outperform domestic students in science, IT, engineering, education, arts and agriculture/environment.

To address these concerns, New Zealand TEIs have however strengthened their language admission requirements and foundation programmes to ensure that students are adequately prepared to begin their studies, both academically and linguistically. Some TEIs have also developed professional development programmes for their staff focusing on improving delivery in classes with large international enrolments. Lastly, the *Code of Practice for the Pastoral Care of International Students* requires TEIs to ensure minimum skills, and proposes minimum standards.

International quality assurance policies

The development of internationalisation of tertiary education – in its multiple forms – transcends and challenges national regulatory frameworks as countries need to assess and ensure the quality of their international activities domestically and abroad, while at the same time protect their citizens enrolled in foreign TEIs abroad or in their own country. Van Damme (2002) contends that in this respect, national regulatory frameworks are increasingly inadequate, although a number of countries have adopted various quality assurance policies and schemes to deal with international aspects of tertiary education.

Various approaches and instruments to the quality assurance of internationalisation exist. In some countries and/or TEIs, the quality assurance of internationalisation is dealt with by focusing on international activities as part of regular quality self-assessments. Another strategy is to develop codes of practice specifying a set of minimum requirements to be respected or situations to be avoided. Some countries or networks also resort to certification processes like those developed by the Global Alliance for Trans-national Education (GATE), while internationalisation strategies and activities are sometimes included in broader accreditation processes at the institutional or programme level (van Damme, 2002; van der Wende, 1999).

Internationalisation at home

With respect to internationalisation at home, the *Netherlands Universities Foundation for International Cooperation in Higher Education* (NUFFIC) developed for instance a set of guidelines to help TEIs undertake the self-assessments of their international activities (NUFFIC, 1995). In the same fashion, the Finnish Centre for International Mobility also worked up a self-assessment checklist for TEIs to evaluate and improve their international work (Snellman 1995).

Another interesting approach has been followed in Portugal, where a series of large scale international partnerships have been launched between *consortia* of Portuguese universities and leading North American TEIs through joint professional Masters and PhD programmes (see Box 7.3). These partnerships have shown to allow the introduction of new quality assurance practices in the Portuguese TEIs and have proved to be true agents of change in the tertiary education system.

Student mobility

As far as student mobility is concerned, the development of quality assurance mechanisms to protect international students has to a large extent been led by the host countries themselves. Indeed, the government authorities as well as the TEIs of the most highly internationalised systems are fully aware that poor educational quality, support services, pastoral care or business failure by a minority of rogue providers could put the whole sector at risk through adverse reputational effects. They have put in place various mechanisms to assure consumer protection, by way of codes of conduct, financial incentives, information to prospective international students and immigration legislation. Among countries participating in the Review, Croatia, Estonia, Japan, the Netherlands, New Zealand, Norway, the Russian Federation and the United Kingdom have adopted quality assurance frameworks for international students (Table 10.3).

Codes of conduct have been developed at the national level by the major Anglo-Saxon destinations. In New Zealand for instance, the enrolment of international students is restricted to TEIs that have signed the *Code of Practice for the Pastoral Care of International Students*. This code of practice suggests minimum standards in various areas including the English language proficiency of international students. In Australia, a similar code specifies TEIs' obligations in a range of areas, and TEIs' compliance with the code is subject to an external assessment as part of regular quality audits. In the United Kingdom, TEIs also follow the Association of College's Charter of Excellence in International Education and Training in England while in Scotland, suggested good practice is provided by the International Student Recruitment and Support Good Practice Guidelines for Scottish Education Institutions (UK Council for International Education, 2006). But similar instruments also exist in non-English speaking destinations, *e.g.* in Estonia or the Netherlands.

Information and financial mechanisms are other relevant policy instruments. For example, Australia developed a list of courses and programmes endorsed by government authorities as suitable for international students since 2000 (DEST, 2006). With respect to financial incentives, Australian TEIs are only able to enrol international students – and collect fees – in accredited courses. Another interesting initiative is the request by New Zealand that private TEIs have adequate protection of student fees in the event of closure. These arrangements mirror the comprehensive framework that has been in place in Australia since 2000 which guarantees overseas students the education for which they have paid.

But the ultimate policy tool to protect students is the immigration legislation, which can be used to enforce quality provision by restricting student residence permits to TEIs meeting minimum quality standards. This is the case in Australia and New Zealand where TEIs need to be registered or approved by a quality assurance body (DEST, 2006).

In addition to these policy instruments by host countries, a few sending countries which support financially the mobility of their citizens have also established safeguards by making this support conditional upon some form of accreditation or recognition of the host TEI.

Programme and institutions mobility

A few countries extend their quality assurance oversight to the operations of their domestic TEIs abroad. This is the case in Australia and the United Kingdom, where the government-funded audits of the activities of TEIs extend to those operating offshore.

Similarly, a certification process has been developed for all New Zealand public and private providers offering programmes offshore (Knight, 2001). However, these initiatives remain fairly unique. Other countries generally have little quality oversight and formal regulatory processes of the operations abroad of their TEIs. This is for instance the case in the Netherlands.

As far as the operations of foreign TEIs on the domestic territory are concerned, quality control is also important in light of the prestige associated with international degrees in some countries, implying a risk of seeing fraudulent and semi-fraudulent TEIs operate degree mills. Such quality issues can be dealt with through the application of stringent accreditation mechanisms uniformly to international TEIs just like domestic ones. Yet, few countries seem to include foreign providers within the framework of their national accreditation and quality assurance systems (Table 10.1). Australia, Belgium (Fl. community), China, Korea, New Zealand and Sweden constitute exceptions in this respect. In Sweden and the United Kingdom by contrast, the scope of their quality oversight is limited to the recognition of the degrees offered while in Norway, it is up to the foreign TEI to seek accreditation or operate without automatic recognition of its degrees.

With respect to distance education, the United Kingdom has developed Guidelines for quality assurance of distance education in the United Kingdom. Although not-exclusively designed to protect international students, these guidelines help TEIs check the soundness of their distance learning arrangements in terms of programme design and delivery, student development and support, student communication and representation, and student assessment. They also offer suggestions on quality assurance and control which TEIs can use, elaborate, and adapt according to their own needs, traditions, cultures and decision-making processes.

But quality assurance processes are not sufficient, the dissemination of quality-related information is equally important, and unfortunately, often lacking. For instance there are indications in Korea that a growing number of students enrolled abroad unknowingly attend non-accredited TEIs and waste their money on worthless diplomas (KEDI, 2006). There is therefore a need for existing national and international schemes to be co-ordinated and strengthened to meet the policy goals of protection of learners, greater transparency of qualifications, fair and transparent recognition of professions, and increasing international co-operation among national quality assurance and accreditation agencies. In this context, UNESCO and OECD have developed guidelines on *Quality Provision in Cross-border Higher Education* which involve the development of a Web-based information portal on recognised TEIs/providers at the international level (OECD, 2005c; Box 10.3).

Quality as a marketing instrument

But quality assurance is not limited to control. It can also be seen as a vital element of the broader marketing of the tertiary education system. In Australia for instance, a stated government goal is to support TEIs efforts to provide quality international education services so as to enhance Australia's reputation as an education leader (Nelson, 2003). Australia's *Transnational Quality Strategy* was therefore developed to ensure that education and training delivered overseas is comparable to that delivered in Australia. Similarly, the activities of the *Finnish Higher Education Evaluation Council* (FINHEEC) are now part of the national strategy for increased international visibility and competitiveness.

10.3.4 Brain gain or drain

Lastly, a fourth challenge for policy makers is to monitor and manoeuvre the migration implications of the internationalisation of tertiary education. To a large extent, this discussion relates to the migration impact of the mobility of students and academics, although other forms of internationalisation – by contributing to the development of linguistic and cross-cultural skills embedded in students – may also contribute to enhancing their opportunities for an international career.

Box 10.3. OECD/UNESCO Guidelines for Quality Provision in Cross-border Higher Education

The *Guidelines for Quality Provision in Cross-border Higher Education* have been elaborated in close collaboration between the OECD and UNESCO, and were approved by the OECD Council and supported by the UNESCO general conference in 2005.

The Guidelines provide an international framework to protect students and other stakeholders from low-quality provision and disreputable providers. They provide guidance to key stakeholders on how to share the responsibility of assuring quality provision of cross-border higher education between sending and receiving countries.

There are four main policy objectives for the Guidelines:

- Students/learners' protection from the risks of misinformation, low-quality provision and qualifications of limited validity.
- Qualifications should be readable and transparent in order to increase their international validity and portability. Reliable and user-friendly information sources should facilitate this.
- Recognition procedures should be transparent, coherent, fair and reliable and impose as little burden as possible to mobile professionals.
- National quality assurance and accreditation agencies need to intensify their international cooperation in order to increase mutual understanding.

The Guidelines recommend actions to governments but also to five other stakeholders: TEIs (including academic staff), student bodies, quality assurance and accreditation bodies, academic recognition bodies and professional bodies. The Guidelines encourage collaboration and exchange both internally between governments and these stakeholders, but also externally between sending and receiving countries.

The Guidelines are based on a set of principles, which start with the recognition of national sovereignty over quality assurance and the diversity of systems that this produces around the world. One of their major features is that they enhance responsibility for partnerships, sharing, dialogue, and mutual trust and respect between sending and receiving countries, thus assuring quality and relevance in cross-border higher education. Even though the Guidelines are non-binding, Member countries are expected to implement the Guidelines as appropriate in their national context.

Following the adoption of the Guidelines, the OECD has conducted a survey to assess progress with their implementation and found that some dissemination and implementation activities have been carried out in several signatory countries, through translation of the guidelines in national language or amendments to the quality assurance frameworks. In addition, UNESCO is developing a Web portal, as an information tool to improve access to up-to-date, accurate, and comprehensive information on recognised TEIs/providers at the international level.

Related Web sites

www.oecd.org/edu/internationalisation/guidelines

http://portal.unesco.org/education/en/ev.php-URL_ID=52702&URL_DO=DO_TOPIC&URL_SECTION=201.html

This complex challenge encompasses several aspects. The first one relates to the positive contribution of internationalisation of tertiary education to the development of human resources, by overcoming constraints in domestic capacity, capitalising on synergies and complementarities between education systems, and developing the cross-cultural skills of the future labour force. Yet, these potential benefits of internationalisation are likely to be defeated whenever mobile students and academics

decide to stay in their host country to work, and are lost to their country of origin. The rapid development of international student mobility in the past 3 decades and the parallel trend towards the globalisation of the labour market for the highly-skilled have revived concerns that the 'brain gain' expected from internationalisation could turn into a 'brain drain[57]'. Evidence on stay rates is thus examined in a second stage. Meanwhile, most OECD countries are competing for skilled workers while trying to ensure a fair share of the gains with their partners. The policy options used in this respect are thus reviewed.

Contribution to human resources development

The contribution of international student mobility to human resource development takes many forms.

First, student mobility is one way of addressing bottlenecks in domestic tertiary education provision where domestic capacity is not large enough to enrol all qualified students and a growing middle class can afford to send their children abroad for a foreign education (Knight, 2001). Several countries – especially in South-East Asia – have used this policy lever to increase their tertiary-educated workforce and serve national economic development goals.

In addition, study abroad allows countries – especially the smaller and/or least-developed ones – to take advantage of complementarities in tertiary education systems, by providing a cost-efficient alternative to domestic provision in highly specialised disciplines where economies of scale cannot be generated nationally, or by sending students in centres of excellence whose standards could not be reached nationally. With respect to academics, international mobility similarly allows countries to share the costs of expensive scientific equipments by forging partnerships in research with centres of excellence worldwide, and sending domestic researchers there for some time. With these objectives in mind, a number of countries within and outside the OECD have adopted a deliberate strategy of sending their students and academics abroad – especially at higher levels. In the case of developing countries, this strategy often receives the support of the host countries. For instance, the Swedish International Aid Agency offers assistance to developing countries in the form of contracts of education at Swedish TEIs for which it pays. Norway also has a longstanding tradition of foreign aid through tertiary education cooperation.

Finally, student and academics mobility also contribute to human resource development through enhanced linguistic and cross-cultural skills which allow them to effectively participate in increasingly global and knowledge-based economies.

57 Brain drain is traditionally defined as the 'emigration of skilled and professional personnel from developing countries to advanced industrialised nations' (Miyagiwa, 1991), although this concept has also been used by extension to reflect the emigration of skilled workers and professionals from developed countries – mainly to the United States and other OECD countries of immigration. However, the need to differentiate between the situation of developing and developed nations – whereby the former only experience a loss of skills while the latter see the emigration of their highly skilled nationals compensated by entries of highly-skilled workers from developing countries – has led to the expression of "brain exchange" to characterise the second group of countries (Lee *et al.*, 2006).

Stay rates and immigration impact

Yet, the contribution of student mobility to this human resource development goal critically depends on the return of a significant proportion of international students. As Knight (2001) puts it, 'although the desire to remain in a country for work experience after graduation is often seen as understandable, a prolonged or permanent stay jeopardises the sending country's plans for developing the human-resource base needed to modernise its systems and infrastructure'.

The potential loss of national talent has long been an issue associated with the increased mobility of students and scholars, for both developing and developed countries. Indeed, the integration of former students in the labour market of the host country is facilitated by their high level of education, their mastery of the host country's language and familiarity with local social codes, and the fact that their degree is known to local employers. It is generally widely accepted that some students who study abroad subsequently settle in their country of study, but this has not been measured at the international level.

In this respect, a recent analysis by Dreher and Poutvaara (2005) fills this empirical gap, and shows that the stock of foreign students from a given country of origin enrolled in a given destination is an important predictor of subsequent migration between the 2 countries. Although this analysis only covers nine destinations – Australia, Belgium, Canada, Denmark, France, Germany, Japan, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States – its results have the potential to revive concerns in relation to the risks of brain drain deriving from international student mobility. For their part, Baruch *et al.* (2007) explore the decision making process of individuals on the basis of survey data of international students from developing countries enrolled in business studies in the United Kingdom and the United States. They find that the most significant predictors of students' decision to stay are their adjustment in the host country, the presence of strong family ties and the labour market situation in the country of study, while strong family ties in the home country encourage them to return. They also note that a sizeable proportion of international students intend to stay in their country of study temporarily to repay their study loans and gain a highly-valued international experience with a view to a later return.

This somewhat positive outlook, whereby post-study emigration may be a temporary phenomenon, is consistent with recent views in the literature which tend to see the issue more from the positive angle of free talent flow rather than the negative element of brain drain (Carr *et al.*, 2005, Stark, 2005; Knight, 2001).

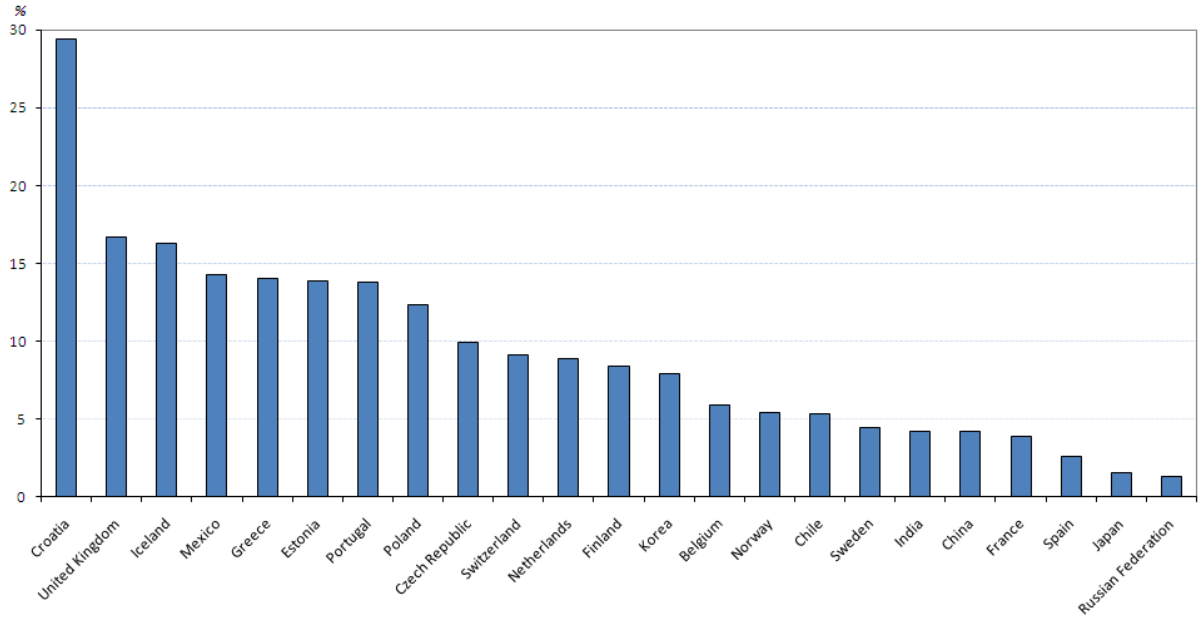
In fact, most countries participating in the Review report evidence of a brain exchange rather than a brain drain. In Iceland for instance, it is generally believed that the majority of students enrolled abroad have returned, thereby contributing to human resources development. In the United Kingdom where the possibility of a brain drain to the United States is a recurrent concern, a recent study suggests instead that there is a brain gain rather than a brain drain with the United States. Similarly, New Zealand research indicates that the country experiences more of a brain exchange – with a replacement of emigrants by more-skilled immigrants – than the often-talked-about brain drain (Glass and Choy, 2001).

The past decade has seen positive developments in developing countries as well, whereby some countries have succeeded in turning brain drain into brain circulation, and capitalizing on their emigrant Diaspora beyond the sole flow of financial remittances. Lee

et al. (2006) describe the situation of the Indian Diaspora and Indian graduates who have returned home and contributed tremendously to the economic development of certain areas. And in fact, the involvement, association and connection with Diaspora, have been considered as one of the most important strategies as a way to reap benefits from brain drain in developing countries (Meyer and Brown, 1999; Ouaked, 2002; Saxenian, 2002 and 2005).

This positive stance is confirmed by Docquier and Marfouk's computations of emigration rates (to OECD countries) of tertiary-educated workers from 190 countries of origin. Based on recent OECD data on stocks of immigrants by country of origin and level of educational attainment in various countries, their emigration rates for tertiary-educated workers reflect the combined stay rates of all student mobility flows up to 2000 as well as other skilled migration flows which are independent of student mobility. Therefore, they can only provide an indication of the extent of brain drain, and highlight countries of origin where a careful monitoring of student mobility stay rates might be useful. These data show that with the exception of Croatia – where nearly a third of tertiary-educated workers live outside their country of birth – brain drain is not a massive phenomenon among countries participating in the Review, even though a noticeable proportion of tertiary-educated workers born in the Czech Republic, Estonia, Greece, Iceland, Mexico, Poland, Portugal and the United Kingdom lived outside their country of birth in 2000 (Figure 10.6). Interestingly, China and India – whose international students reported the highest intentions to stay in the United States in 2000 – display comparatively low emigration rates overall (Tremblay, 2002).

Figure 10.6. Emigration rate of tertiary-educated population, by country of birth (2000)



Source: Docquier and Marfouk, 2004.

Policies aimed at ensuring a fair share of gains

Countries taking part in the Review have adopted a number of policy initiatives to ensure a fair share of gains between countries of origin and destination of international students in terms of the migration impact of internationalisation.

With respect to developing countries, potential conflicts may arise as host countries increasingly seek to attract highly-educated international students from developing countries for later temporary or permanent settlement. In such situations, conflicts of objectives arise both with the countries of origin of the students, but also within the host country itself with the aid and development agencies whose policies aim at assisting developing countries to upgrade the skills of their populations.

From the perspective of sending countries, several countries participating in the Review have adopted specific provisions whereby financial support to undertake studies abroad is conditional upon a commitment of students to return upon completion of their studies. This is the case in Chile, China, Croatia, Estonia (for one support scheme) and Mexico (Table 10.3).

But host countries can also adopt policies to address the conflict of objectives with their aid authorities in a way that does not limit students' freedom to choose whether to return or stay. An interesting initiative in this respect is the Norwegian Quota Scheme, which provides support, through the State Educational Loan Fund, to a certain number of students from specified countries in Central and Eastern Europe, Central Asia and other developing countries to undertake studies in Norway. Upon completion of studies, the loans are transformed into grants if the students return to their home country to settle there permanently, whereas they have to be repaid by students who choose to stay in Norway or settle in a third country. In addition, these students are increasingly recruited through cooperation between TEIs in Norway and in the students' home countries rather than on the 'open market', again with an aim to limit brain drain.

But policy tools aimed at limiting the extent of brain drain are also used in more industrialised countries. For instance, New Zealand provides interest-free student loans and bonded scholarships for borrowers and recipients who stay in New Zealand upon completion of their studies, in a drive to encourage New Zealand citizens to remain within the country.

In addition, a number of countries have established specific programmes to reverse past brain drain and attract their talents back into the country. The policy tools to reach this goal range from fellowships in Australia to assist universities to compete for the world's best researchers, to tax incentives in New Zealand to encourage expatriate school teachers and science and engineering PhD graduates to return, while China, Iceland and Switzerland have developed other interesting initiatives (Box 10.4).

Box 10.4. Attracting talent back from abroad: Switzerland and China

A number of countries have developed incentives to lure their expatriate talents back into the country. These range from the mobilisation of diaspora networks to financial incentives or more comprehensive packages.

Mobilisation of diaspora networks and financial incentives in Switzerland

With respect to diaspora networks, Switzerland established an online network – www.swisstalents.org – in order to encourage networking among expatriate Swiss scientists and to foster contacts and links with their peers in Switzerland (Cervantes and Guellec, 2002).

In addition, the Swiss National Science Foundation (SNSF) has resorted to a variety of measures to stem the loss of Swiss research scientists. In 1999 it created 'SNSF Professorships' for the purpose of attracting the best people back from abroad, among other things. The professorships enable young scientists with several years of recognised research experience to make a significant step forward in their academic careers, and also enable researchers to resume their careers at a Swiss TEI on return from a study abroad. According to SNSF, the proportion of researchers abroad who returned with an SNSF professorship to Switzerland was 37% in 2006 (SNFS, 2007).

Comprehensive packages in China

Finally, China developed a comprehensive package of incentives to encourage its international students to return upon completion of their studies. Indeed, after a rapid growth of international student mobility since 1978 and several phases of transition, the government has finally formed the working principles: "support for overseas study, encouragement for returning, freedom for coming and going".

Chinese authorities have encouraged international students to return in various ways: by some special financial support (*e.g.* Fund for Returnees to Launch S&T Researches, which benefited nearly 11 000 individuals since its inception in 1990), by strengthening the development of enterprises parks and incubators for returnees (*e.g.* Supporting Fund for Starting Enterprises for Outstanding Talents who Return from Overseas studies), by helping the returnees' children to study in local schools and helping their spouses to find jobs (MoE, 2007). It also includes other various benefits upon return (special permits to enter and leave the country freely, tax-free construction materials and international money transfers, fiscal incentives for investments, economic opportunities).

10.4 Pointers for Future Policy Development

The trends and challenges of internationalisation described in this chapter point to several areas where policy development could help countries achieve their internationalisation goals and maximise the returns of opening up to international cooperation and exchange.

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 24 participating 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 internationalise their tertiary education systems. However, some common themes are evident in the country reforms now underway. Policy recommendations are therefore grouped under several

headings relating to the overall strategy and steering of internationalisation policy, the strengthening of the attractiveness and international competitiveness of the tertiary education system, the strengthening of the internal dimension of internationalisation and the optimisation of the internationalisation strategy.

Overall strategy and steering of internationalisation policy

Develop a national strategy and comprehensive policy framework for internationalisation

The background for internationalisation varies considerably across countries according to their economic and political power, size and geographic location, dominant culture, the quality and typical features of their tertiary education system, the role their language plays internationally, as well as their previous internationalisation policies. In this context, it is important for countries to develop a national strategy or master plan for internationalisation in light of their country-specific goals in the tertiary education sector, but also beyond education (human resources development, research and innovation *etc.*). Obviously, this strategy needs to adapt to country-specific circumstances, building upon natural advantages and acknowledging constraints, and there is no ideal internationalisation strategy other than maximising the benefits of internationalisation in the national context. The main difficulty is to resist the temptation to replicate models designed for countries facing very different circumstances. For instance, the success of some Anglo-Saxon countries in developing a tertiary education export sector cannot easily be replicated elsewhere and fine tuning is needed to find the right balance between different forms of internationalisation and decide where to put efforts.

Improve national policy coordination

Developing a national strategy also helps in elaborating a sound policy framework in the various areas of public policy, maximising synergies among related policies. It is important that policy directions followed by educational authorities in terms of internationalisation are compatible and consistent with those of related policy areas.

In particular, policy coordination may be sought with public authorities in charge of immigration, to ensure that visa blockages and delays do not inhibit the global competitiveness of the tertiary education system by discouraging international students and globally mobile intellectual labour. Policy coordination may also extend to possibilities for international students to work during their studies, and/or stay to work in their country of study upon graduation, if skilled immigration is sought after. Coordination of policies with science and technology authorities may also be useful to make sure that international exchange and cooperation agreements effectively contribute to research and innovation at the national level, while coordination with labour authorities may warrant that international activities are targeted to train skilled workers and recruit international students in the disciplines, levels of education and areas of employment most relevant to the national economy. Lastly, policy coordination with foreign affairs authorities may be required to ensure that financial support to incoming international students meets the goals of both labour and immigration authorities – in a future immigration perspective – as well as the objectives of development assistance to developing countries. In this latter respect, the engagement of national aid agencies may be considered to make sure that the education of nationals from developing countries

includes provisions to avoid or counteract brain drain and encourage brain circulation instead.

A good model for enhancing national policy coordination may be to establish an inter-governmental committee or cluster group with representatives from these various public policy areas to ensure a whole-of-government approach to internationalisation.

Encourage TEIs to become proactive actors of internationalisation

While the national/sector level has an important influence on the international dimension of tertiary education through policy steering, funding, programmes, regulatory frameworks, and cross-departmental policy coordination, internationalisation activities are pursued at the institutional level, and within TEIs at the discipline level. Given the diversity of TEIs, the principal potentials for national policy lie more in creating the framework conditions for them to become proactive actors of internationalisation, through interventions designed to remove blockages, by granting more autonomy to TEIs to make them more responsive to their external environment, or by including a special internationalisation strategy in the annual negotiations between the tertiary education authorities and TEIs as a way to promote their engagement in international cooperation and exchange. Financial incentives may also encourage TEIs to internationalise. The introduction of tuition fees for international students is one possible option although it needs to be carefully assessed against the background of country-specific goals, traditions and circumstances to ensure that it does not prejudice the international attractiveness of the tertiary education system. In countries less able to compete on non-educational factors but where the presence of international students on domestic campuses is nonetheless sought, these financial incentives could instead take the form of tuition subsidies or targeted funds to assist TEIs' international activities. In some cases, targeted funding may also be envisaged to assist TEIs in the development of internationalisation-related infrastructure.

Promote sustainable strategies of internationalisation

While the bulk of internationalisation work is carried out in TEIs, government authorities have a role to play to steer institutional strategies in directions that are sustainable over time in order to protect the sector and achieve the goals set in the national strategy. Greater sustainability of internationalisation strategies can be achieved by promoting the diversification of international activities.

The range of international activities could be diversified further to better serve national objectives or take national circumstances into consideration, *e.g.* development of 'twinning' programmes to recruit international students in countries that do not have a natural comparative advantage, encouragement of foreign TEIs' operations in the country to stimulate competition with domestic providers, and encouragement of forms of internationalisation that are more conducive to keeping human resources in the country wherever brain drain is a concern.

The diversification of internationalisation partners should also be encouraged to temper risks and soften the impact of potential shocks on demand, especially in systems where the revenue-generating approach prevails. Obviously, countries of origin are to a large extent exogenously determined and large sending countries such as China and India will keep representing large proportions of international students for many destinations, yet some diversification could still be achieved, *e.g.* through targeted marketing in under-

represented markets, expansion of instruction in English or in the language of large source countries (*e.g.* in Chinese). The issue of diversification is also relevant for importing countries.

Finally, it would seem important to focus attention on ensuring that international students are spread throughout the tertiary education system, regardless of the type, size or location of their host TEIs, both from an equity perspective in terms of internationalisation at home and to temper the risks resulting from an over-reliance of some TEIs upon international students. These considerations may justify public intervention to correct imbalances in the distribution of international students, *e.g.* assistance to smaller/remote TEIs to recruit international students and provide them with adequate support.

Create structures to assist TEIs in their internationalisation strategies

Indeed, several side-effects of internationalisation have highlighted the need for greater support to TEIs in their internationalisation strategies. Whenever a country faces problems related to the quality of its international student intake, it would be useful to create a specific structure/agency to support TEIs – and especially the smaller ones – in their recruitment efforts and strategies. This would allow smaller TEIs lacking experience and infrastructure to build capacity to deal with these issues and develop international networks over time, by building upon the coordinating agency's own infrastructure, experience and economies of scale. In parallel, this agency could also help TEIs build capacity to deal with the quality assurance aspects of their internationalisation strategy, *e.g.* by disseminating good practice, enhancing coordination with quality assurance bodies, and through more targeted actions.

Attractiveness and international competitiveness of the tertiary education system

A number of policy developments may also be used to strengthen the international profile of national tertiary education systems, and hence build up their attractiveness.

Create structures to promote the national tertiary education system

Coordinated activities may have persuasive effects on attracting international students into the country by promoting the brand image of national tertiary education towards international audiences. International marketing activities are especially relevant to reach new markets/partners. In this respect, there are efficiency gains to be made and scale economies to be generated by concentrating market research activities and the promotion of the brand image of national tertiary education in one single structure/agency, which could funded by TEIs in proportion of their share of international enrolments. This agency could monitor internationalisation trends, carry out market research, develop brochures and interactive course databases, advise TEIs in developing their internationalisation strategy and possibly assist them with international recruitment activities. In addition, government authorities could more actively use diplomatic missions abroad to promote national tertiary education, ease immigration formalities, and showcase national research achievements and the potential for collaboration. Marketing activities may also be useful to promote specific regions through collaboration and partnerships between TEIs, local governments and chambers of commerce.

Enhance the international comparability of tertiary education

It would make sense for countries wishing to enhance the international competitiveness of their tertiary education system to give highest priority to issues surrounding the international comparability and recognition of degrees and credits. Recent developments in Europe within the framework of the Bologna Process and in the Asia-Pacific region through the UMAP (University Mobility in Asia and the Pacific) Credit Transfer Scheme raise important policy questions for outsider countries of whether to join these transparency-enhancing movements and how. Participation in international credit transfer systems and involvement in international networks of professional recognition have the potential to significantly boost student mobility and exchange, while the emergence of internationally-readable degree structures as part of the Bologna Process calls for Bologna-compatible degree structures within – but also increasingly outside – the Bologna area in order to remain competitive internationally.

Develop alternatives to current global rankings

In an increasingly transparent and internationally-comparable environment, issues surrounding the quality of tertiary education delivered become more important. In this context, the emergence in recent years of global rankings of world universities has had a profound impact on internationalisation. Yet, global rankings are not without problems, and there is a risk that the growing publicity of these global rankings results in misleading perceptions of TEIs' – and by extension, tertiary education systems' – quality. It would therefore be in the interests of countries to support the development of more sophisticated instruments and methodologies for the global comparison and benchmarking of TEIs' quality than the current global rankings' methodologies. Ideally, these measures should capture different aspects of performance (including value-added in teaching), would be adapted to accommodate the diversity of TEIs' types and missions, and would be interactive enough to enable prospective students and other stakeholders to obtain rankings tailored to their own criteria. Efforts towards the development of comparative measures of learning outcomes at institutional level should also be encouraged.

Improve information to prospective international students

But TEIs' performance is only one aspect of transparency. The attractiveness of the tertiary education system may be enhanced by improving information towards prospective international students in a whole range of other areas, including the dissemination of information on programmes and courses' costs (tuition fees as well as costs of living) and their accreditation.

Foster centres of excellence at post-graduate level…

Fostering a small number of world-class centres of excellence in areas of comparative strength could prove valuable for countries with an interest in attracting international students at the post-graduate level given their propensity to consider the research performance of TEIs in their choice of a destination. In this respect, reinforcing the capacities and the professionalisation of institutional leadership may increase the capacity of TEIs to identify and support centres of research excellence.

… but ensure quality provision in under-graduate cross-border education as well

At the same time, issues surrounding quality assurance across national borders should have high priority at the under-graduate level of education as well, since this is where the bulk of international activities take place. It is indeed in the interest of countries to ensure quality provision in international activities, as a way to safeguard their reputation in the case of exporting countries, and to protect consumers from the perspective of importing countries.

Effective quality assurance and accreditation mechanisms should therefore be put in place to protect learners from the risk of misinformation, low quality provision, and qualifications of questionable validity, *e.g.* through greater co-ordination between national quality assurance agencies and those involved in the internationalisation of tertiary education or by submitting TEIs operating cross-border to national accreditation and quality assurance requirements.

The implementation of the OECD/UNESCO *Guidelines for Quality Provision in Cross-border Higher Education* (Box 10.3) and co-operation between national quality assurance agencies at international level should also be promoted. TEIs could also be encouraged to provide specific support mechanisms for international students both before their arrival and during their studies (*e.g.* counselling, monitoring of progress).

Internal dimension of internationalisation

A number of policy initiatives have the capacity to strengthen the internal dimension of internationalisation.

Develop on-campus internationalisation

Policy initiatives and TEIs' efforts should be targeted at the development of on-campus internationalisation, in recognition that only a small proportion of students take part in international student mobility, and the latter are more likely to belong to privileged socio-economic backgrounds. It would therefore be appropriate to integrate an international or intercultural dimension in tertiary curricula, and develop the language and cross-cultural skills of domestic students directly on-campus.

This can be done by allowing – and encouraging – TEIs to deliver part of their programmes in foreign languages and to intensify international enrolments in order to widen the scope for intercultural exchanges on-campus. These kinds of curriculum offerings should however be developed at the initiative of TEIs, while the scope for public policy would lie in providing models of global education and technical assistance.

International perspectives and cross-cultural exchanges may also be brought through the academic staff delivering lectures and classes, by a more active policy of recruiting foreign academics in TEIs as a way of establishing creative research environments and truly cross-cultural campuses. In some countries, this would entail reforms of career and recruitment policies, international agreements on the transfer of pension rights, or greater flexibility in academic salary scales to attract academics from abroad.

Joint degree programmes developed in cooperation with foreign TEIs also have the potential to expose domestic students to different views and teaching styles. An additional advantage of joint degree programmes lies in short-term staff exchange that is usually involved, which may provide a cost-effective alternative to the permanent recruitment of

foreign academics wherever academic recruitment legislations/practices are closed to outsiders or salary levels are uncompetitive.

Encourage the mobility of domestic academic staff and students

Notwithstanding the potential of on-campus internationalisation, the mobility of domestic staff and students should be encouraged in countries where outgoing mobility tends to be low.

Building-up a culture of mobility amongst students can be achieved by encouraging TEIs to integrate short-term exchanges as regular parts of their programmes and develop twinning programmes with foreign TEIs, through dissemination information on the benefits of mobility, the development of credit transfer schemes and recognition mechanisms, the portability of public funding as well as financial support such as means-tested mobility grants or loan schemes and their adaptation to the specific needs of students (mature, with family responsibilities or with a disability).

Incentives to promote the mobility of academics could take the form of including international activities and mobility among the criteria for promotion and career advancement.

Optimisation of internationalisation strategy

Finally, a number of policy levers may help countries optimise their internationalisation strategy according to their specific goals and circumstances.

Inform policy-making in the area of internationalisation

In most countries, there appears to be a limited capacity to trace the career path of individuals who took part in some form of internationalisation relative to those who did not. This gap in the information base makes it difficult to ascertain the extent to which internationalisation activities benefit individuals and assist national development. This calls for better information on the 'international experience' of individuals in tertiary graduate or labour force surveys. Little is known either on the costs of incoming student mobility in countries where no – or under-priced – tuition fees are charged. While it may be rational for the public sector to subsidise the education of international students in acknowledgement of the externalities they yield, the costs ought to be transparent for the purpose of good public policy.

Take advantage of international complementarities

It would also be important to take advantage of complementarities between systems of tertiary education. Indeed, highly specialised programmes in one system may train students whose home system is either less specialised in a specific domain or lacks it entirely. The principle of inter-system complementarities has implications for international student mobility since public support for degree-mobility might need to be targeted to post-graduate studies or under-graduate programmes unavailable at home.

Public support to student mobility at the under-graduate level of education might be better spent on promoting wider participation in shorter-term exchanges in an equity perspective.

Manage the migration impact of internationalisation

In countries where the non-return of international students is a source of concern, some forms of internationalisation relying upon collaborative programmes with foreign TEIs may prove a sound strategy to build capacity in tertiary education know-how while limiting the risks of non-return among students going abroad for limited periods to pursue their education.

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11. What Next? The Challenges of Policy Implementation

11.1 Introduction

Education constitutes one area of public intervention in which reform is a recurrent theme. This is all the more true of tertiary education where in the past decades, structural changes in the external environment, participation patterns and growing demands from the sector have called for its modernisation and new models of governance, funding, quality assurance, relations with stakeholders *etc*.

The previous chapters have thus identified a number of policy directions for tertiary education authorities to consider in their national context to achieve their tertiary education goals. Some of these policy suggestions are already in place in a number of countries, while they may have less relevance for other countries because of different social, economic and educational structures and traditions. A key challenge ahead for policy makers is therefore to identify which policies would work best in their national context and circumstances, and in a second stage to move from knowing what changes are needed to implementing those changes successfully.

Chapter 3 examined the shaping of tertiary education policy and the process of policy development in different national contexts, with specific emphasis on evidence basis, peer-learning, tradeoffs, policy coordination and consultation processes with stakeholders. This last chapter by contrast focuses on the challenges of policy implementation in tertiary education, with special emphasis upon issues of social acceptance and political feasibility. Indeed, educational reforms often entail costs for some groups while their benefits are less certain, more diffuse and in any case delayed in time. This feature makes implementation a complex task for policy makers, one in which political economy considerations are of key importance.

The analysis draws on lessons from national experiences as well as from the political economy literature, with a view to identify triggers to take reform agendas forward. The chapter starts with a review of lessons from past experiences which suggest that a precondition for successful policy implementation is to reconcile the diverging interests of a wide range of stakeholders, and to convince them that the reform is the way forward. Along this course, policy makers need to carefully analyse policy alternatives and their likely impact and discuss them with stakeholders to aim towards consensus. The analysis then identifies some common impediments to reform, with a view to overcome them and develop the conditions conducive to successful policy adoption. But although supportive circumstances are a necessary condition for successful implementation, they are not always sufficient, especially when the situation of some stakeholder groups is likely to worsen – or perceived so – as a result of the reform. The chapter therefore ends with a discussion of bargaining processes and costs of reforms, as well as incentive structures facilitating compliance with new policies, as a way to ensure policy implementation in the longer term.

11.2 The complexity of policy implementation

Tertiary education policy is relevant to – and impacts on – a number of different stakeholders who have an interest in tertiary education, but whose views on its roles and goals, and hence on the strategies and policies needed to achieve these goals, often diverge. Depending on where they stand in the tertiary education sector, stakeholders may jeopardise the implementation of tertiary education policy in different ways. As a result, a challenging task for policy makers is to find a balance between these diverse views and aims in developing and implementing tertiary education policy, so as to build consensus and ensure that no single group vetoes or jeopardises the implementation of tertiary education policies.

11.2.1 Wide range of stakeholders and views on tertiary education policy

Stakeholders can be defined as individuals or organisations that can either influence or be affected by an organisation's actions (Johnson and Scholes, 1999). Mitroff (1983) further suggests that one should distinguish between internal stakeholders – *i.e.* those individuals or groups who affect and impact change within the system from the inside such as students, academics and tertiary education institutions (TEIs) – and external stakeholders who exert their influence from the outside, such as national authorities, trade union confederations, trade and employer associations, large companies, lobbyists and educational researchers.

Stakeholders often have different motives and objectives with respect to tertiary education, and each group tends to privilege different aspects when it comes to reform and policy development (Vroeijenstijn, 1995; Jacobs and van der Ploeg, 2005). For instance, educational quality, teaching performance and career opportunities are what matters to students and graduates, along fulfilment of personal interests and individual development. Employers and industry representatives share this concern for tertiary education to transmit the right set of knowledge, skills and attributes to students and to prepare them for working life, but they are also interested in the capacity of tertiary education to contribute to research and innovation and regional development. By contrast, academics often show more interest in policies relating to knowledge transfer, learning environments, quality and motivation of students, research quality and the level of interaction between teaching and research, as well as tenure possibilities. Numbers of students, the prestige of TEIs, their ability to compete internationally in research and sufficient autonomy to fulfil their mission are the issues at stake from the perspective of TEI managers while government authorities – as significant funders of tertiary education – are concerned with the efficient allocation of scarce public resources and hence policies enhancing value for money and accountability towards taxpayers. In the context of growing participation in tertiary education and acute pressures on public budgets, government authorities show increasing interest in cost-sharing models while students and their parents tend to resist changes in that direction.

As illustrated above, the interests of all stakeholders in tertiary education are not necessarily aligned, and as a result of these different objectives, they usually do not share the same views about tertiary education problems and solutions (Mitroff, 1983). The situation is further complicated by the fact that within each stakeholder group, several views often prevail, *e.g.* between different students' or teachers' unions, different types of TEIs, different sectors of industry, quantitative and qualitative researchers, or between central or regional policy makers.

11.2.2 Difficult consensus-building over policy initiatives

This diversity of views makes the policy making exercise particularly challenging, especially so given that policy makers often represent one of the stakeholders groups – the government authorities – and therefore they need to reconcile different perspectives to avoid the perception that education policy is imposed to other groups in a top-down fashion. Indeed, some degree of consensus is necessary for policy to translate in effective change. As put by Gornitzka (1999), "for organisations to change as a result of government initiatives a normative match is necessary, *i.e.* congruence between the values and beliefs underlying a proposed programme or policy and the identity and traditions of the organisation".

Johnstone *et al.* (1998) distinguish however between popular and contentious policy initiatives – such as the introduction of student aid *vs.* tuition fees for instance – with consensus being obviously easier to achieve for the former than the latter type of policy initiatives. As a result, popular policy initiatives are more likely to be adopted and successfully implemented, whereas less consensual initiatives may be blocked or simply fail to deliver the desired objectives at several stages of the policy development and implementation process, depending on which stakeholder groups oppose the extent to which this opposition is translated into action.

Yet, on occasions policy makers may have to implement policy reforms in the absence of consensus because they believe it is the right thing to do and stakeholders' views are irreconcilable. In such conditions however, explanatory processes and compensatory measures are an important aspect of the ultimate success of implementation.

11.2.3 Diverse forms of policy failure

Throughout this chapter, policy is defined as a public statement of an objective and the kind of instruments that will be used to achieve it, while the degree to which the predicted consequences take place is called implementation (Gornitzka, 1999). A distinction needs to be made, however, between policy initiatives of a more intentional nature – which are usually established through some form of statement of intention – and more coercible policy proposals which usually have to undergo some type of legal approval to be enforced. As a result, policy adoption takes place in many countries between the policy proposal and policy implementation stages.

Proposed policy initiatives may be unsuccessful at different points along the policy process, resulting in different forms of implementation failure. During the policy development or adoption process, some stakeholder groups may voice strong opposition to policy proposals, essentially by means of intense lobbying by external stakeholders, and demonstrations or strikes by their internal counterparts. The views of government authorities and society at large usually express themselves through the placement of proposals on the policy agenda for the former, and democratic adoption processes for the latter. Finally, policy initiatives may fail to deliver the expected results during the implementation stage either as a result of non compliance by various stakeholders, or partial implementation only.

There are indeed abundant examples of tertiary education reform failures. In addition to massive student or academics demonstrations or strikes – of which most countries have a memorable case in point –and policy initiatives rejected by Parliament, the two most common problems encountered during policy implementation relate to the so-called

'implementation gap' as well as the implementation of partial reforms only for fear of sparking stronger rebellion.

The implementation gap refers to the difference between the planned outcomes of policy and the outcomes of the implementation process (Newton, 2001). While the lack of preparedness of those deemed to implement reforms on the ground may explain this gap, a range of authors also stress the discretion exercised by 'front-line' workers, or 'street level' bureaucrats whereby the relative autonomy enjoyed by some actors within the system grants them the power to put into practice the policy initiative at the point of implementation (Lipsky, 1980; Prottas, 1978). In this logic, policy initiatives unpopular with academics and TEIs' leaders or perceived as unnecessary (or worse, ill-conceived) will be at best half-heartedly implemented, at worst actively resisted.

From a theoretical perspective, the implementation gap has been modelled by Reynolds and Saunders' (1987) through the notion of the implementation staircase. They show how the location of individuals and stakeholder groups in the hierarchy of the policy process – from national policy makers to institutional leaders, department heads, frontline academics and student responses – can shape their interests and perceptions about the relevance of particular policies and explain the reasons for the development of an 'implementation gap' as policy is refracted during its trajectory down, and up, the staircase. As put by Trowler (2002), "there is a loosely coupled relationship between policy initiatives at the upper level of the implementation staircase and outcomes on the ground". According to Theisens (2004), one of the most important reasons for the failure of top-down design and implementation of policies is the pervasive tradition of autonomy. Academic autonomy is highly valued at all levels of the tertiary education system: the TEI, the chair and the individual academic. In each relationship (government-TEI, TEI-chair and chair-individual academic) interventions are likely to be resisted as these are perceived as infringing on autonomy and therefore illegitimate. The implementation gap models highlight the importance of garnering support from the people on the ground as one of the most strategic approaches to encouraging active policy implementation.

Another common problem of tertiary education policy reform derives from partial implementation. As the analysis of Chapter 3 underlined, the policy development process is often characterised by difficult tradeoffs which call for sound reform packages where different policy initiatives aim at counterbalancing the side effects of other proposals in order to avoid perverse effects. If only some of the measures are adopted, the reform may then generate unintended and damaging consequences. For instance, partial reforms introducing tuition fees to finance expansion but without income-contingent loan schemes to warrant accessibility may have a disastrous effect on equity by limiting access of the less affluent students. Likewise, Perotti (2007) describes the unintended effect of a reform granting more autonomy to Spanish universities in setting their own academic programmes in the mid-1980s. In the absence of simultaneous reforms to strengthen a managerial type of institutional governance indeed, this autonomy reinforced internal actors, and the reform resulted in a proliferation rather than a streamlining of university qualifications, as the academic community pushed for more specialisation as a way to multiply professorial chairs.

Jacobs and van der Ploeg (2005) provide another illustration of the unintended effects of partial implementation, relating the 'sorry tale' of Dutch mergers of TEIs in the 1980s and 1990s. These mergers aimed at reducing overhead costs relative to expenditures on teaching and research through economies of scale in order to compensate for the decline

in real terms of contributions per student. Yet, the reform yielded opposite outcomes with a massive increase in overhead costs and a fall in resources per student for teaching and research, which the authors attribute to the absence of parallel reforms to foster competition between TEIs. Indeed, they argue that in the absence of competition-enhancing measures, the increase in scale created oligopolistic market situations in tertiary education and produced adverse incentives on TEI management discipline. A 2007 study concludes that overhead costs in tertiary education are now – at about 25% - in par with those observed in other public and semi-public sectors (Huijben and van Rosmalen, 2007).

Partial reforms are often the result of insufficient resources to implement the full reform package – *e.g.* in the case of income-contingent loans to finance tuition fees – or fear of resistance on the more contentious measures of the policy package. Yet, experience suggests that controversy over policy initiatives is not necessarily a definite barrier to policy implementation, and consensus can be reached for seemingly contentious reforms. Johnstone *et al.* (1998) report for instance how the rector of the University of Sonora in Mexico managed to build consensus with his staff and students to introduce student contributions to the costs of their education in 1993[58], whereas any attempt to introduce cost-sharing had been fiercely resisted in other Mexican public universities – especially at the *National Autonomous University of Mexico* (UNAM, Rhoads and Mina, 2001). These examples highlight the need to explore lessons from experiences in greater depth to draw insight on obstacles to successful outcomes as well as conditions that facilitate policy implementation.

11.3 Lessons from success stories

There is abundant literature on educational reforms in an international comparative perspective and their outcomes in diverse national settings (Fiske, 1996; Johnstone *et al.*, 1998; Corrales, 1999; Kogan *et al.*, 2000; Harman and Harman, 2003; Jacobs and van der Ploeg, 2005). These studies permit to draw lessons from both success stories and policy flops, and to better understand the factors that help or hinder the successful implementation of policy initiatives in the educational area. With respect to success stories, most studies underline the importance of the context in which tertiary education policies are proposed, the clarity of their objectives and rationales to all stakeholders, and the value of consensus-building during the policy development stage.

11.3.1 Context for policy reform

International pressure and competitive environment

With respect to the context in which tertiary education policies are proposed, evidence suggests that international pressure and competitive environments are more likely to diffuse a sense of ineluctability of some reforms among the various stakeholders and the public at large. Finlay *et al.* (1998) note for instance that external stimuli such as a competitive threat or a common enemy (*e.g.* unemployment) often result in a joint

58 In Sonora, students accepted the principle of a contribution to generate supplementary resources towards quality improvement initiatives. The corresponding funds are administered by a joint student-faculty committee and information on the use of the money is disseminated every year (Johnstone *et al.*, 1998).

recognition of the need for a change to take place that can lead to a united front of stakeholders.

In Europe for instance, Perotti (2007) highlights how supranational conventions such as the Bologna Process have triggered a restructuring of academic programmes to enhance comparability and mutual recognition of tertiary qualifications among countries – along the Bachelor-Master-Doctorate (BMD) degree structure and the European Credit Transfer System (ECTS) – which national actors would not otherwise have undertaken. As a result of this international pressure, most European systems have restructured their tertiary education delivery, or are in the process of doing so (see Chapter 10, Huisman and van der Wende, 2004; Bologna Secretariat, 2007).

Similarly, the implementation of wide-ranging 'big-bang' tertiary education reforms in Japan in 2004 were reportedly facilitated – despite initial resistance within TEIs – by a widespread political and public sentiment that reform was overdue and that, in comparison with the systems of peer countries in North America, Australasia and Europe, Japanese universities were falling behind (Amano and Poole, 2005). In New Zealand, the implementation of wide ranging reforms in the tertiary education sector also benefited from widespread social acceptance of the reforms being the right way forward for the system.

While international benchmarking and competition may spur the acknowledgement of problems and the acceptance of changes within the public and stakeholders, Jacobs and van der Ploeg (2005) argue that competition and market forces within the domestic tertiary education system also have potential to facilitate policy implementation with respect to internal stakeholders. Indeed, they claim that insufficiently competitive tertiary education systems generate larger monopoly rents and exacerbate rent-seeking activities of insiders and their resistance to policy initiatives likely to trim down those rents.

Consensual nature of policy making

A number of authors also stress the assistance of consensual modes of policy making for successful adoption and implementation of policy initiatives (Fiske, 1996; Johnstone *et al.*, 1998; Finlay *et al.*, 1998; Corrales, 1999; Bleiklie, 2000; Lindell, 2004).

There is extensive evidence that consensus is almost a prerequisite for successful implementation of policy reforms. As noted by Fiske (1996) with respect to school decentralisation, researchers are almost unanimous in arguing that if school decentralisation is going to be successfully carried out and have a positive impact on the quality of teaching and learning, it must be built on a foundation of broad consensus among the various actors involved and the various interest groups affected by such a change. And in fact, he observes on a basis of a comparative analysis that countries where leaders sought to build consensus for reform happen to be those where decentralisation was most successful. Even in countries where early attempts failed – such as Chile and Mexico – decentralisation policies were eventually implemented successfully once a deal was struck with teachers, despite the fact that this group remained suspicious with school autonomy overall.

Systems where the nature of policy making is consensual therefore face brighter conditions for successful policy implementation. There are several reasons for this. Firstly, consensual policy making is characterised by iterative processes of proposals and feedback which allow legitimate concerns to be taken into account, and hence reduce the likelyhood of strong opposition by some stakeholder groups. There is evidence in Norway

for instance that the continuous dialogue and consultations between TEIs and political authorities that characterised the preparation of the *Quality Reform* – including the use of a Royal Commission representing the main stakeholders – facilitated its acceptance and implementation. Likewise, many policy developments in the United Kingdom would have been more difficult to implement without iterative amendments which have for the most part been introduced following consultations with academic staff.

In addition, consensual policy making forces different stakeholders to work together constructively rather than engage in fruitless opposition. Lindell (2004) notes for instance that in Sweden, "even though the stakeholders are opponents in appearance, the everyday work in parliamentary commissions and joint working groups is done by a small group of professional elites whose agenda is not always optimised for their members only, but for the interest of the nation".

Trust between stakeholders

But the main benefit of consensual policy making lies in its role in building trust between the various stakeholder groups and policy makers. The experience of countries participating in the Review suggests that mechanisms of regular and institutionalised consultation – which are inherent to consensual policy making – contribute to the development of trust among parties, and help them reach consensus. In the case of Norway, Trowler (2002) notes that top civil servants and university professors form an intimate and close community of individuals who know each other personally and share a common background. Being a very specialised group in society, these professionals know and trust each other very well, and hence develop a refined strategy where policy bargaining is common.

Building consensus and trust over time

While consensual policy making and trust between parties are critical assets to ensure successful implementation of tertiary education policies, it is not suggested that countries whose contextual conditions are less supportive have no chance of successfully reforming their tertiary education system. Indeed, Lindell (2004) shows how consensus can be built over time. His analysis of a reform of tertiary vocational education in Sweden illustrates how conflicting interests of stakeholders can be reconciled by having them work together towards a policy proposal: "the somewhat fierce ideological disagreements that had characterised the initial proposal from 1995 had radically changed during the years from 1996 to 1999 (…) There was a clear shift of rhetoric actions before and after the 3 years of the pilot project". According to Lindell, working together on a daily basis to get the pilot project running contributed to the emergence of a common view among stakeholders. Likewise, the introduction of the *Higher Education Contribution Scheme* (HECS) in Australia in 1988 was initially strongly opposed by all active student groups and the subject of much political agitation in opposition to it, though it has since achieved a significant level of acceptance.

11.3.2 Clear objectives/purposes of policy reform

Another factor which is often put forward by researchers when analysing the reasons for the success or otherwise of policy adoption and implementation relates to the communication of the objectives and purposes of reforms. Indeed, Olsen (1989) notes

that policies are more likely to succeed if their intentions are focused and well defined rather than ambiguous. There are three main reasons for this.

Firstly, evidence suggests that reforms are more likely to be adopted and implemented if the pressure to reform comes from the citizens (Amano and Poole, 2005). In this perspective, communication on the objectives and purposes of reforms can help secure public support for new policy initiatives.

In addition, several studies claim that a clear vision on the goals of tertiary education, and how these goals can be reached, is also necessary to avoid tertiary education policy being *ad hoc* and mainly driven by special interests (Gornitzka, 1999; Jacobs and van der Ploeg, 2005). Indeed, policies formulated under pressures of contending parties with different interests and values tend to have multiple, conflicting and vague intentions, and the price one pays for accommodating them are policies with inherent tensions and contradictions (Bleiklie, 2000; Trowler, 2002).

The end result is a lack of clarity between conflicting signals for stakeholders within the system. These unclear rationales for policy initiatives undermine their acceptance by those who are ultimately to implement the policies, and make implementation and compliance a particularly challenging task for policy makers.

11.3.3 Process of policy development

Empirical evidence also pinpoint to a number of patterns of the policy development process that tend to be associated with successful implementation of tertiary education reforms. In light of the critical importance of consensus for the success of policies, a number of these patterns have a bearing on outcomes through their effect on consensus-building. However, the magnitude of tertiary education reforms and the role of policy entrepreneurs are other key dimensions.

Magnitude of tertiary education reform

Corrales (1999) observes – on the basis of a thorough review of education reforms implemented in the 1980s and 1990s worldwide – that incremental approaches to policy reform stand greater chances of acceptance than complete overhauls of education systems. Cerych and Sabatier (1986) observe similar patterns for tertiary education reforms implemented in Europe in the 1970s and conclude that the degree of success is highest in cases of policies aiming at mid-level change both in terms of breadth and depth.

According to Johnstone *et al.* (1998), this pattern derives from the widespread sentiment among academics that they have a role to play in defending TEIs as proper and necessary bastions of continuity and tradition, and in protecting the custom of academic freedom. But political feasibility considerations are also put forward to explain this feature. Haddad (1994) argues for instance that gradual reforms incur fewer political difficulties because a narrow scope allows policy makers to test the acceptance of reforms, avoids the national spotlight, keeps to a minimum the number of cost-bearers and is less likely to provoke their mobilisation.

At the same time, the experiences of some countries participating in the Review suggest that comprehensive and far-reaching 'big bang' reforms are not necessarily doomed to fail. In particular, the implementation of wide ranging reforms in Australia, Japan and New Zealand illustrates how 'big bang' types of tertiary education reforms can

be achieved successfully, provided they benefit from wide support among stakeholders. This emphasises the importance of consensus-enhancing patterns of policy development.

Consensus-enhancing patterns of policy development

Involvement of stakeholders with combined top-down and bottom-up participation

There is broad agreement in the literature that the involvement of stakeholders in tertiary education policy development cultivates a sense of joint ownership over policies, and hence helps build consensus over both the need and the relevance of reforms (Finlay *et al.*, 1998; Harman and Harman, 2003; Lindell, 2004; OECD, 2007; Perotti, 2007). This engagement of stakeholders can take place at several points in the policy development process, at the initiation, development and implementation stages.

With respect to the initiation of new policies, the combination of top-down and bottom-up initiatives is generally believed to foster consensus (Finlay *et al.*, 1998). Indeed, policy proposals instigated in a bottom-up fashion – *e.g.* as a result of bottom-up campaigning for change on the part of parents, students and local communities – contribute to building ownership for policy initiatives by stakeholders and usually receive wide public support, making it more difficult for internal stakeholders to resist them (Amano and Poole, 2005). Likewise, there is increasing recognition of the potential of promoting initiatives by internal stakeholders to garner their support. For instance, a recent study of evidence-informed policy making underlines how the involvement of practitioners – teachers, other educational staff and their unions – in the production of research evidence and in its interpretation and translation into policy gives them a strong sense of ownership and strengthens their confidence in the reform process (OECD, 2007). Shared ownership of internal stakeholders over research results also encourages implementation in a way that something imposed externally by researchers on teachers does not (Slavin, 2006; OECD, 2007).

The process for the development of Mexico's 2001-2006 *National Education Programme* (*Programa Nacional de Educación*, PRONAE) illustrates the potential contributions of bottom-up initiatives. The programme was developed on the basis of extensive input from a range of stakeholders, including TEIs, researchers, students, alumni, employers' associations, education authorities, as well as the education commission of the legislative branch and other public and private agencies. Over 8 000 proposals were sent by interested parties through different channels (including an Internet Web site) or presented at the 32 forums carried out in Mexican states for that purpose. The information received was subsequently classified and analysed, and the Ministry validated about 30% of these initiatives. Many citizens and TEIs were thus parties in the Programme's design.

The involvement of stakeholders is also important during the policy development phase. Processes of regular and institutionalised consultations establish a policy making process that is strongly oriented towards consensus among parties. Another merit of structured consultations with stakeholders is that their regular involvement in policy design helps them build capacity over time, as evidence by Sweden where the regular involvement of stakeholder groups in commissions has led them to build large and well-staffed research departments over time (Lindell, 2004).

Among countries participating in the Review, consultation processes with stakeholders are common although the specific modalities and actors involved vary

between countries. Consultations are institutionalised by law in the Czech Republic and Poland. In Estonia, Finland, Iceland, Norway, Sweden and Switzerland, they are part of cultural traditions with wide consultation and participation in decision making by all key stakeholders being expected and accepted parts of the public policy process. Yet in other countries, consultations take place either regularly through consolidations of views and various committees (Korea, the Netherlands, New Zealand and Portugal) or on an *ad hoc* basis when developing specific reforms of tertiary education – as illustrated by the experiences in Australia and Spain (see Chapter 3).

In Estonia for instance, the usual procedures for preparing policy proposals include consultation with all stakeholders' representatives, usually in the form of discussions and official approval rounds. In the case of broad policy directions or special legislative reforms, the Minister usually assembles a special task force with a specific assignment, which is sometimes led by outside experts. The Rectors' Conferences, students' federation and other bodies are then asked to nominate their representatives. The conclusions of these working groups are taken as recommendations to the Minister, and although not legally binding, they are most often taken as a basis for decisions.

Other interesting models from a consensus-building perspective are systems where stakeholders are involved in prioritisation exercises which subsequently form the basis for policy implementation – *e.g.* in the allocation of resources. In Australia, Chile and Poland for instance, stakeholders are involved in the definition of national research priorities which then have implications for the allocation of research funds. In Poland, the first steps of a prioritisation exercise were taken in 2005 with the launching of the National Framework Programme. A wide consultation was launched – under the joint auspices of the Ministry of Education and Science and the Council for Science – to identify research priority areas. The process resulted in over 1 600 proposals from ministries, regional and local authorities, business organisations and research units within TEIs, from which nine strategic areas were identified. Similar prioritisation processes exist in Australia and Chile that involve the research and scientific community as well as the business community and the wider society.

But the importance of bottom-up initiatives is not confined to the development of tertiary education policies. They can also be extremely important afterwards, to ensure the successful implementation of policies. For instance, Harman and Harman (2003) observe as regards institutional mergers that voluntary fusions are easier to organise and more successful, largely because it is possible to achieve a substantial degree of staff involvement in negotiations and implementation, leading usually to a strong sense of ownership. Consultations with stakeholders are also useful during policy implementation, through feedback and iterative improvement of tertiary education policies.

Rational debate

A number of authors also advocate the organisation of public discussions and nation-wide debates to identify challenges facing the tertiary education system and to provide consensual directions for its medium and long term strategy. It is argued that focusing on building consensus on the strategic direction for the system not only enhances stakeholders' understanding of resources constraints and tradeoffs and avoids a concentration of the debate on resourcing issues, but also improves the likelihood of their support for policies emerging from the jointly-agreed strategy.

Indeed, Fiske (1996) observes that "individuals and groups will be more likely to accept changes that are not necessarily in their own best interests if they understand the reasons for the changes, have a chance to participate in the debate, and believe that the process has been honest and transparent". Likewise, Jacobs and van der Ploeg (2005) note that "politicians and policy makers are currently not capable of convincing the public of the benefits of certain reforms" and call for a rationale debate with a stronger emphasis on the general interest to avoid *ad hoc* policies driven by special interests. Finlay *et al.* (1998) also emphasise the importance of reaching early agreement on important goals, and of making the process as transparent as possible so that those groups or individuals excluded from the debate can follow the policy process from the inside. Opening up the policy arena to all walks of society – including political opponents – generally proves an effective strategy (Arellano, 2001).

Several countries participating in the Review have established such debates as part of their tertiary education reform processes by way of national consultations or commissions, and these have generally proved effective in terms of implementation outcomes as they facilitated securing the support of public opinion and other stakeholders. In the case of Chile for instance, Arellano (2001) highlights that the composition of the *Commission for the Modernisation of Education* – which involved a number of eminent and distinguished members coming from a range of backgrounds and political affiliations – may help explain its ability to gain legitimacy and secure a fair degree of support and consensus for its proposals.

Dissemination of evidence underlying reforms and role of media

Such rational debates are more likely to be effective if all stakeholders have access to evidence underlying the policy proposals. This applies to both internal stakeholders who may want to see the external evidence on which a proposed innovation is based before approving a change in policy or practice at the institutional or classroom level, as well as external stakeholders to convince them of the merits of a specific policy reform. In this respect, two approaches may contribute to consensus-building.

Research or intermediary bodies have proved successful strategies to mediate the research evidence by providing a unique gate entry to publications and research on tertiary education. In doing so, they can play a crucial role in helping convince practitioners and society at large. They are indeed important contributions to raise awareness on problematic issues, to enhance national debate and disseminate evidence on the effectiveness and impact of different policy alternatives, and hence to find a consensus on tertiary education policy. In Sweden for instance, The *National Agency for Higher Education* publishes the results of the majority of enquiries undertaken on its Web site [www.hsv.se/]. Similar dissemination takes place in Australia, the Netherlands, New Zealand and the United Kingdom (see Chapter 3).

With respect to public opinion, the media may also prove a useful dissemination tool. Emphasis on international comparisons in media reports may raise awareness for the need for a change to take place among the public. Likewise, ideas which are generally perceived as intuitively reasonable gain power and support of public opinion. This is especially the case where they are promoted by the media, who often play a major role in shaping, or stunting, the policy agenda. They can then be used as a basis for policy change and educational reform regardless of whether there has been any empirical testing (OECD, 2007). In the United States context for instance, Cohen-Vogel and Ingle (2007)

show how the media were instrumental in introducing the idea of a merit-based aid to legislators across states.

Iterative process taking political factors into account

The empirical literature of education policy implementation also shows wide support for iterative policy development, as a way to facilitate the early identification of potential opponents to reform, and to address part of their concerns through adjustments in subsequent iterations of the policy proposals (Ball, 1994; Bleiklie, 2000; Trowler, 2002; Lindell, 2004). Indeed, it is argued that policy development is frequently far from the simple mechanical application of means to realise given ends by policy 'architects' or 'engineers', but rather consists of a process of negotiation and compromise with multiple influences and agendas. As put by Trowler, "at the institutional level, as at the national, policy making and policy implementation are more likely to be the result of negotiation, compromise and conflict than of rational decisions and technical solutions".

Recent reforms of tertiary education in Australia illustrate how iterative adjustment of policies can help secure the support of internal stakeholders. Indeed, the new accountability environment that was associated with the 2002-2003 reforms received complaints from the sector due to the increased reporting burden on universities. The *Australian Vice-Chancellor Committee* (AVCC) went as far as claiming that the autonomy of universities was under threat and commissioned independent research to investigate this assertion. As a result, the *Department of Education Science and Training* reviewed reporting requirements with the AVCC in 2002-2003, and many requirements were dropped or reduced in scope, to the satisfaction of the AVCC.

In the same vein, Lindell (2004) describes how iterative processes in policy development reconciled diverging interests of stakeholders in the Swedish context. He depicts the different steps of a reform of higher vocational education and training that helped move from conflicting interests of the different stakeholders to collective consent. The reform process was initiated by a commissioned study which provided a diagnosis and suggested proposals for improvement. Stakeholder groups were invited to respond to these proposals, on the basis of which a pilot project was launched for a three-year period that made concessions to several of their views. A parliamentary committee was established to monitor and evaluate the pilot reform, with the involvement of the stakeholders. After three years of trial, an independent evaluation of the pilot reform was carried out by a research team which no longer showed signs of dissent between stakeholders. The continuation of the reform beyond the pilot phase was unanimously supported. In Lindell's view, one explanation for this shift towards consensus is that the daily work of getting the pilot project running helped the stakeholders build trust and finally resulted in this common view.

Policy experimentation and pilots

And in fact, policy experimentation and the recourse to pilot schemes can prove powerful in testing out policy initiatives and – by virtue of their temporary nature and limited scope – overcoming fears and resistances by specific groups of stakeholders. In fact, Lindell (2004) attributes the success of the Swedish reform of higher vocational education and training to its step-by-step implementation in which the pilot project "*de facto* put stakeholders in 'quarantine' and gave them a common responsibility, which together with the work on a daily basis of getting the project running finally resulted in a

common view". Policy experimentation is facilitated and common in Federal state structures where there is evidence of policy-borrowing and emulation across states and provinces (see Chapter 3 and McLendon *et al.*, 2005).

Role of policy entrepreneurs

A number of authors also underline the potential of 'policy entrepreneurs' in moving policy agendas forward and promoting tertiary education reforms. Cohen-Vogel and Ingle (2007) define them as agents who "marshal indicators and invest considerable resources to bring their conceptions of problems to policy makers' attention, and try to convince them to see problems their way" and claim that in the United States they were instrumental in introducing the idea of a merit-based aid to legislators across states (Cohen-Vogel and Ingle, 2007). Likewise, the Polish Rector's Conference has reportedly been "lobbying the parliament to interpret the new constitution in a way that would legalise tuition" (Johnstone *et al.*, 1998).

However, research suggests that the influence of such policy advocates is most important at the initiation stage of policy development. Indeed, Cohen-Vogel and Ingle (2007) describe policy making as a sequential process – starting with the identification of a public problem, its placement in an agenda queue, the formulation of proposed courses of action to address it, and the adoption of these policy options – in which they show that policy entrepreneurs' influence is strongest during the agenda-setting.

11.4 Understanding failure and overcoming obstacles to tertiary education reform

In the same way as the analysis of success stories helps identify conditions conducive to successful policy implementation, less successful experiences pinpoint frequent obstacles to tertiary education reform, and can therefore assist policy makers in designing and implementing tertiary education policies in a way that minimises the risk of failure and improves the odds of successful outcomes. In this respect, a number of studies have explored the outcomes of education policy implementation from an internationally comparative perspective, and have underlined some common impediments to education reform (Fiske, 1996; Finlay *et al.*, 1998; Johnstone *et al.*, 1998; Corrales, 1999; Bleiklie, 2000; Kogan *et al.*, 2000; Harman and Harman, 2003; Jacobs and van der Ploeg, 2005). These common obstacles derive from resistances to reform by different stakeholders which have three main origins.

Indeed, a first range of obstacles stems from the resistance of some actors to new tertiary education policies – irrespective of their merit *per se* from a social perspective – in case these policies incur more costs than benefits to them at the individual or group level. For the sake of analysis, these obstacles may be labelled in terms of rationale behaviour of actors in a political economy perspective. A second range of factors result from resistance to reform due to imperfect information of stakeholders – either on the nature of the proposed policy changes, their impact, and most importantly, information on whether or not they will be better or worse off at the individual or group level. Finally, a number of authors highlight the importance of factors of a more psychological nature, whereby tertiary education reforms may encounter opposition due to the lack of preparedness of the public opinion and insufficient social acceptance for the reforms.

11.4.1 Rationale behaviour: political economy of reform

A first series of obstacles to tertiary education reform stems from the behaviour of the various stakeholders and their interactions through the political process. Whilst initially developed to explain the processes of economic reforms, a number of public choice models have been used to enlighten the implementation of reforms in tertiary education. These models – which are often referred to through the broad formulation of "political economy of reform" – rely upon the basic assumption that all actors involved in the policy making process – *i.e.* policy makers, voters and stakeholders – are rational self-interested agents whose decisions and actions are guided by the maximisation of an individual or group "utility function" (Tullock, 1987; Buchanan, 2003). The interactions of these different agents each pursuing different objectives – *e.g.* re-election for politicians, rent-seeking for some groups, maximisation of benefits for others – result in strategic games, political coalitions, and often, in collective decisions that are not in society's best interest. Important to these models are the use of modern economic tools such as decision, game and median voter theories to explain the adoption or failure of policies. While it is not the purpose of this Chapter to review this broad literature, the main political economy mechanisms impairing tertiary education reform are summarised below.

Internationally comparative studies of tertiary education policy implementation suggest that political economy considerations are of critical importance when it comes to tertiary education reform (Fiske, 1996; Johnstone *et al.*, 1998; Corrales, 1999; Jacobs and van der Ploeg, 2005). While the adoption of consensual policies (*e.g.* expansion of participation) is generally fairly easy and straightforward, Cohen-Vogel and Ingle (2007) note that "contentious reforms or changes in policies where values are more evenly split among citizens move slowly through the political process, and as they do, are almost exclusively influenced by public opinion". And indeed, Corrales (1999) also notes – on the basis of a comprehensive review of education reforms implemented in developing and developed countries in the 1980s and 1990s – that meaningful education reforms often fail to get approved or implemented, mostly for political reasons. For her part, Gornitzka (1999) goes as far as seeing policy change as the result of new bargains struck between policy making actors when resources are redistributed, and views policy formation as strategic goal-directed behaviour and problem solving under conditions of conflicting interests.

Cost-benefit analysis of policy reforms by stakeholders: winners and losers

A common source of resistance to reforms derives from losses – real or feared – that some stakeholder groups are to bear as a result of the reform, giving them strong incentives to resist the adoption or implementation of policies perceived as unfavourable for them. In this respect, the literature and experiences of countries with education reforms shows evidence of such "rational opposition" among various groups of stakeholders. From a theoretical perspective, a number of redistributive models show how policy reform is supported by winners and opposed by losers (Alesina, 1988). Empirical observations for their part suggest that different types of losses may spur resistance to reform. Indeed, policies affecting the balance of power and prestige often yield equal tension as those translating in monetary costs for some groups.

With respect to academic communities and their unions, there is for instance evidence of unease or resistance to decentralisation and autonomy policies, as the latter are often accompanied by a redistribution of power within TEIs towards increased institutional

leadership and a relative weakening of collegial bodies (see Chapter 3 and Johnstone *et al.*, 1998). Likewise, Fiske (1996) notes that in centralised systems, unions tend to resist any devolving of responsibility for staff management to TEIs as unions seek to maintain a united front in negotiating salaries and working conditions. Quality assurance and accountability reforms also commonly face some degree of hostility from academic communities – especially during the early steps of the development of quality assurance systems when trust between parties has not yet been built. This is evidenced by the situation in Greece where Stamoulas (2006) attributes the defiance of the academic community to a reform introducing quality assurance to an anxiety to lose from the reform. As noted by the author, the weighty tradition of centralist management in Greek tertiary education made university professors suspicious of the real motives behind the reform, and fuelled fears that quality assurance be used to tighten up administrative control over public TEIs further. Overall, academics were afraid that the "penetration of such terms as competition and evaluation in higher education, including the introduction of new procedures of appointment and dismissal, plus performance-based pay, will erode job security".

Prestige considerations may also fuel preferences for *status quo*. In Japan for instance, Amano and Poole (2005) report how "university professors feel a great sense of crisis when (…) as a result of the expansion of new interdisciplinary areas, their own academic field is threatened or it becomes clear that their own area of specialisation is markedly below international standards". Academic communities may also resist institutional merger reforms for fear of the consequences of restructuring departments and possible risks of staff redundancies (Harman and Harman, 2003).

Prestige and power considerations are also important impediments to reforms seeking a rationalisation of tertiary education provision. For instance, Harman and Harman (2003) report how TEIs and their leaders are more likely to resist full institutional mergers than looser types of cooperative arrangements since they demand participating TEIs giving up much more autonomy. This fear to lose from the reform incurs resistance even though the authors note that such mergers work better in the longer run in developing academic coherence and new institutional loyalty.

Policy makers themselves may deter the effective implementation of tertiary education reforms. Corrales (1999) suggests for instance that bureaucrats may resist decentralisation policies which compel them to give up decision-making authority. In addition decentralisation policies, by granting more autonomy to TEIs for their daily management, imply changing responsibilities at the central level, from micromanagement to steering and performance analysis (see Chapter 3). The new set of skills required in ministries may increase anxiety levels among staff for their job security, and spur their resistance to the initiation of decentralisation reforms.

Finally, students' strong hostility to funding reforms seeking greater levels of cost-sharing in tertiary education provide another illustration of rational opposition to reform due to their potential costs on this interest group. There is extensive evidence across diverse countries that attempts to introduce tuition fees in tertiary education often generate massive street demonstrations or strikes by students to oppose the loss of subsidies or free services (Corrales, 1999; Rhoads and Mina, 2001). According to Johnstone *et al.* (1998), student mobilisation is all the more powerful as this group is articulate, energetic, politically volatile and can easily be enlisted in the cause of opposing governments' efforts to radically alter their institution.

Distribution of costs and benefits and political mobilisation

While interest groups likely to lose from policy reforms generally vividly oppose them, Corrales (1999) notes that by contrast the beneficiaries of reforms often fail to organise themselves sufficiently to help them go forward. He argues that this feature of education reform implementation results from unfavourable political conditions, mainly due to the fact that they produce concentrated costs and distributed benefits. When the costs of a particular policy fall directly and intensely on specific interest groups while the benefits are diffuse, negatively affected interest groups have a much stronger incentive to block education reforms than beneficiaries have to support them, thereby leading to the rise of strong and well-organised veto groups while the beneficiaries of reform tend to be less organised and motivated.

Another reason for the low mobilisation of beneficiaries from education reforms – aside the diffusion of benefits across a large number of beneficiaries – derives from the temporal disconnection between immediate cost-bearing and opposition of hit interest groups while the benefits of education reforms are often only perceptible in the long term (Corrales, 1999).

In addition to the concentration of costs and benefits, the institutional features of tertiary education governance have also been advanced as possible obstacles to reform. This argument builds upon insider-outsider models and suggests – with respect to students for instance – that many TEIs have a governance structure that entrenches the rights of current students at the expense of future students and other parties, and this makes them difficult to reform (Duflo, 2005). At the system level, the involvement of student or academic representatives in policy consultations is also common. While highly commendable from a consensus-building perspective, such institutional features may complicate the development of tertiary education reforms affecting these stakeholder groups negatively, unless compensatory schemes are built into the policy proposals.

Satisfaction of median voters towards re-election: policy makers' agenda

Finally, a range of obstacles to reform in tertiary education result from the rational behaviour of politicians and policy makers themselves whose agenda and "utility functions" prominently feature the prospect of re-election. This strand of arguments is based on the assumption of a self-interested behaviour of politicians whose actions and decisions would be geared to the satisfaction of the majority of electors so as to maximise the odds of their re-election.

In this respect, the satisfaction of median voters[59] is of key importance in systems operating under majority-voting rule (Buchanan, 2003). And there is evidence indeed of tertiary education policies geared at middle-classes whose political swings may have a strong bearing on election outcomes. For instance, Cohen-Vogel and Ingle (2007) show how the adoption of loosely granted merit aid for tertiary studies in several US states was driven by a desire of policy makers to relieve the middle class – even though merit aid is

59 The median voter theory was first formalised by Black (1948). Intuitively, the median voter can be defined as the person splitting the electorate in 2 groups of equal size in a two-candidate majority voting election. If voters cast their vote for the party or candidate closest to their most preferred feasible policy, it turns out that the candidate who is closest to the median voter always wins the election and is given the power to make public policies until the next election. As a result, the strategic behaviour of politicians is to develop strategies that satisfy the demands of the median voter (Congleton, 2003).

far from the panacea from an equity angle and would therefore not qualify as best choice from the societal perspective (see Chapter 6). Indeed, "opening up eligibility for programmes that substantially reduce the cost of college to almost everyone is sure to pay off in the ballot box".

If one accepts the assumption of self-interested politicians concerned with their re-election as much as with the long term improvement of tertiary education contribution to society, then another series of obstacles to reform can be envisaged. Indeed, Corrales (1999) points to several conditions that impede the long term commitment of policy makers to education reforms.

First and foremost, the external pressures for reform are weak in tertiary education. Different from unsound macroeconomic policies which may quickly trigger capital outflow and force governments to greater discipline, tertiary education does not face similar sanctions for failing to deliver services of the highest quality. The advent of the knowledge economy and acceleration of the pace of technological progress are now increasing the costs of inaction, but the imperfect international competition in tertiary education still hinder the long-term commitment of policy makers to tertiary education improvement.

This problem is exacerbated by the lack of congruence between the timings of reforms and the more immediate electoral processes. As pointed by Corrales (1999), the benefits of education reform are only perceptible in the long term while the costs are borne immediately. Such reforms are therefore unlikely to bring about immediate and tangible political gains to governments and this feature tends to undermine their commitment to implementation, especially if facing strong opposition by interest groups.

And indeed, another obstacle results from the high turnover rate of ministers in charge of tertiary education, which gives them incentives to avoid conflict and impairs their commitment to policy reform (Corrales, 1999). And in fact, experience suggests that political stability can assist the successful implementation of reforms. It has been argued that the success of reforms in Chile resides in the continued existence of the coalition government, the building of consensuses in respect of the reform proposals, and the continuity of the high-level staff at the Ministry of Education (Arellano, 2001). Likewise, the wide-ranging reforms implemented in Australia over the past decade have undoubtedly benefited from the stability of the government coalition.

11.4.2 Information imperfection and asymetries

Information failures are another explanation for the difficulty in implementing tertiary education reforms. In this respect, three main types of information failures may impede policy adoption and implementation.

Firstly, it has been argued that potential beneficiaries of tertiary education reforms are often insufficiently aware of problems and as a result do not exert sufficient pressure on policy makers and stakeholders to implement reforms. With respect to cost-sharing of tertiary education for instance, Gollier (2005) notes that pressure to reform must come from the citizens, but suggests that this is possibly missing in Europe due to two types of information shortages. Not only do citizens and students undervalue the returns to education – and the private benefits to be derived – but they are also unaware that the education they receive could be of higher quality with additional funding.

A second range of information shortages relate to the imperfect information of stakeholders on the nature of proposed policy changes and their impact, leading them to question those changes and resist them. In Croatia for instance, there is evidence that the implementation of new rules for the improved operation of universities faces barriers and resistance from the academic community, mostly due to the lack of information and the fear of change. Likewise, the awareness of the Bologna Process is reportedly limited among students and teaching staff in Norway, and these information shortcomings prevent a more pro-active role of TEIs and of the academic community, including students, in building the *European Higher Education Area*.

Finally, a number of political economy models build upon information imperfections and asymmetries to explain resistance to reforms (Fernandez and Rodrik, 1991). In this game theory logic, it is argued that uncertainty of agents and stakeholders over the outcomes of a specific reform for their own situation – *i.e.* whether they will win or lose – may lead them to oppose the policy change and favour *status quo* even though at societal level, cooperation and reform would be a preferred solution. And indeed, reluctance to change is quite common, especially when policy departs significantly from the existing behaviour (Gornitzka, 1999).

11.4.3 Psychological factors: insufficient ownership and social acceptance

Finally, a range of authors stress the importance of resistances to reform of a more psychological nature, deriving from the lack of ownership of reforms by agents excluded from the policy development process, or the insufficient social acceptance of some policies by internal stakeholders or the public at large.

Insufficient ownership and social acceptance

While the above analysis has underlined the importance of including stakeholders in the policy development process to build consensus and secure successful policy adoption and implementation, conversely, Perotti (2007) notes that actors are often hostile to innovations which they themselves have not promoted.

Another problem frequently encountered by policy makers stems from the insufficient preparedness of the public opinion for some reforms, and the resulting lack of social acceptance for policy innovations. Tertiary education authorities often have a difficult task convincing public opinion, parliaments and all the sectors involved over the necessity of reforms.

In Poland for instance, Wojcicka (2004) reports that the *licenciate* degree (equivalent to a bachelor's degree) which was recently introduced as part of the Bologna reforms is still struggling to attain social legitimacy given the high value of university education and master's degrees within the public. As a result, over 80% of students enrolled in *licenciate* programmes declare their willingness to continue their education, thereby impairing the impact of the degree structure diversification reform. A number of other European systems face similar difficulties during the transition period to the new degree structures as employers and the public are not yet familiar with the shorter qualifications and their social acceptance needs to build up over time. In Finland for instance, while the Bologna degree structure and the European Credit Transfer System (ECTS) have been implemented thoughtfully and swiftly since the 2005 reform, few university students take advantage of this new flexibility as employers are reportedly un-keen to hire students with only a bachelor degree – including the Finnish government which has been

unwilling to accept the bachelor degree as an entry-level qualification for public sector workers.

Funding – and in particular the diversification of sources through tuition fees – constitutes another area of tertiary education policy where social acceptance is often the key obstacle to reform. While the detailed analysis provided in Chapter 4 highlighted the merits of introducing tuition fees in some circumstances[60] and provided these are accompanied by adequate student support schemes to avoid adverse effects on equity, public opinions in a number of countries – and especially in Europe – remain opposed to student contributions to the cost of their studies as tertiary education is seen and perceived as a public good to be provided free of charge by the State.

Reportedly, a number of systems also face difficulties with the implementation of quality assurance reforms due to underdeveloped cultures of self- or external evaluations and the fears they yield among academic communities (Stamoulas, 2006).

Highlighting benefits of reforms to convince stakeholders

In light of these difficulties, a number of authors emphasise the importance of convincing stakeholders of the benefits of certain reforms that lack social acceptance. Jacobs and van der Ploeg (2005) argue that structural reforms in particular generally require much more transparency.

With respect to public opinions, Wojcicka (2004) stresses the importance of information and media campaigns to build the social legitimacy of policies.

Convincing internal stakeholders of the benefits of certain reforms is also a challenge in some instances, especially when it comes to accountability requirements. However, there is evidence in Australia that TEIs derive benefits from quality assessments, and find their academic departments' analyses useful for their own performance measurement and planning thanks to the presentation of time series and comparisons to peer TEIs and the sector as a whole.

11.4.4 Overcoming obstacles to maximise impact

Yet, empirical experience provides reasons for optimism. Indeed, Corrales (1999) observes that a number of countries have managed to successfully implement reforms in their tertiary education sector despite the numerous political, informational and psychological obstacles mentioned above. Moreover, experience provides another reason for cheerfulness as unpopular tertiary education policies tend to be irreversible once adopted regardless of the political difficulties encountered initially and even in the event of a change in political coalitions. Johnstone *et al.* (1998) report for instance that the introduction of means-tested tuition fees in the United Kingdom in the late 1990s was initially proposed by a Tory commission but implemented by a Labour government – which had historically been opposed to any form of tuition. Similarly, the system of school vouchers introduced in Chile in the early 1980s under the dictatorship remains in effect nowadays, despite a radical change in political coalitions (Arrelano, 2001).

60 From an economic theory perspective, there is a case for introducing tuition fees to supplement public funding of tertiary education in systems where public budget constraints either result in rationing tertiary education provision, or translate into declining quality. In systems where none of these constraints is binding, there is less of a case for introducing tuition fees.

How then do policy makers manage to overcome resistances to reform and surmount political obstacles? The costs of inaction are high, and as a result there are strong rationales for cooperation between policy makers and opponents to reform to reach acceptable compromises. In this respect, the experiences of countries participating in the Review suggests several avenues to enhance the outcomes of policy adoption and implementation, essentially through bargaining processes with opponents to tertiary education reforms and the adoption of a number of side policies to support policy implementation.

Rationale for compromise: cost of reform vs. *cost of inaction*

The main rationale for governments and stakeholders to seek compromise over tertiary education reforms despite their different views and antagonisms results from the high costs of inaction. At a time when global competition is more significant than ever and the pace of change has accelerated, failure to adjust tertiary education systems to the new demands placed on them bears high potential costs in terms of missed opportunities. Friedman (2005) argues, the acceleration of technological progress has flattened the world, and in this context, countries that are unable to keep their tertiary education system in pace with global changes will be trampled. At national level, the new context of increased internationalisation and competition in the tertiary education sector has also heightened awareness among all stakeholder groups of the challenges at stake, thereby increasing their willingness to make concessions in search for an acceptable compromise.

Indeed, the costs of inaction are varied and high. Failure to address funding issues in tertiary education may result in inadequate levels of funding to meet international quality standards and thus hamper the long-term competitiveness of the economy, while at the same time being detrimental to the motivation of academic staff. Inadequate student support schemes may also deter participation of students from lower socio-economic backgrounds, and failure to tackle the equity challenge and to provide opportunities for upward social mobility to members of disadvantaged communities may incur significant social costs in terms of unemployment and possibly social unrest. Quality assurance reforms are equally important to ensure that the value of domestic graduates and research keeps up with international standards in a context where knowledge has become critical to a nation's competitive edge. Finally, the growing need for flexibility and responsiveness to societal needs in contemporary tertiary education desperately cries for reforms of system and institutional governance to maximise the impact of tertiary education for the economy and society.

In this context, all stakeholders have incentives to cooperate towards acceptable compromises. As noted by Lindell (2004), the stakeholders' agendas are not always optimised for their members only, but also for the interest of the nation. Likewise, Cohen-Vogel and Ingle (2007) note that the adoption of a policy involves give and take, and that bargaining, compromise and persuasion between policy makers and stakeholders characterise this process, so as to reach a solution that is acceptable by all, even if preferred by none. And indeed, the policy reforms adopted are usually the result of a series of bargains and concessions by different parties, and constitute an acceptable compromise. In this respect, Harman and Harman (2003) note that the outcomes of these negotiations critically depend on whether they succeed in securing some wins for all parties involved so that negotiators will be willing to search for compromises likely to be acceptable to all parties.

At the same time, tertiary education reforms incur costs too. These include the costs of the reform itself as well as the costs involved in "selling" the reform to stakeholders to secure their support. For instance, direct costs of reforms include the costs of setting up income-contingent loan schemes on a large scale in the initial years as loans disbursement are not immediately balanced by repayments of loans, or in the case of institutional mergers, the costs of planning, restructuring departments, integrating library and information systems, enhancing infrastructure, levelling staff salary scales and staff redundancy packages where job cuts are involved (Harman and Harman, 2003). With respect to the "political" costs of reforms, they derive from the bargaining processes that usually take place between governments and stakeholders as part of the search for an acceptable compromise.

Bargaining processes in tertiary education reform

Indeed, the above analysis has shown that a key component of political defiance of reforms lies in the costs borne by different interest groups. It naturally follows that the compensation of these costs significantly improves the chances of reaching an acceptable compromise and securing the support of stakeholders for reforms which are not necessarily in their best interest. Compensatory measures are therefore important to secure the support of potential losers of reforms, and generally involve bargaining processes between policy makers and stakeholders. In Greece for instance, Stamoulas (2006) indicates that the academic community made the introduction of quality assurance mechanisms and evaluation conditional on the state providing further investment in universities.

And in fact, the experiences of countries participating in the Review illustrate how some contentious reforms have been successfully adopted and implemented thanks to compensation mechanisms to secure the support of negatively-affected interest groups.

With respect to academia and teacher unions for instance, Australia introduced a *Workplace Reform Programme* in 1999 – which aimed at strengthening bargaining processes at the institutional level for workplace conditions. The agreement of teacher unions was negotiated through a 2% salary increase for university staff if certain criteria were met within the TEI workplace practices. These criteria included aspects such as performance management, cost savings, discretionary revenue generation, productivity measures, flexible working arrangements and management/administration issues.

Similarly, tuition fees have been introduced in Australia in conjunction with an extensive loan scheme in order not to deter access and participation of less affluent students. Although strongly opposed initially, the HECS has since achieved a significant level of acceptance. Likewise, the success of Chile in implementing education reforms resides in the fact that "when families have been required to help pay for the education of their children, systems of scholarships and (in the case of higher education) loans have been established in order to prevent this requirement from becoming a factor of exclusion" (Arellano, 2001).

Side policies to support implementation

But addressing and overcoming political obstacles to policy adoption are only one aspect of the ultimate success of implementation. Ensuring compliance of various stakeholders in the longer term and supporting them toward effective change are equally important. In this respect, Kogan *et al.* (2000) point out that policy makers rarely take

into account the need to support policy implementation, thinking that once the hard job of policy making is done, they can send out the finished documents and wait for results. Yet, a number of side policies may be used to enhance compliance and the effective implementation of tertiary education policies on the ground. In this respect, Gornitzka (1999) distinguishes the neo-institutional perspective – which typically focuses on the presence of legal coercion and legal sanctioning or alternatively on the voluntary diffusion of 'institutionalised' norms to secure compliance – from the resource dependence perspective – where TEIs' adaptation to external demands is seen as a strategic response that is dependent upon the sanctioning or reward capacity of environmental actors in control of scare resources.

Trowler (2002) suggests that the resource-dependance perspective has gained ground in recent years. Indeed, he argues that incentives tools – *i.e.* the giving or withholding of resources to ensure compliance with policy intentions by those on the ground – have become much more significant in a climate of resource constraint and progressive withdrawal of the state from underwriting the cost of tertiary education worldwide. In the same fashion, Jacobs and van der Ploeg (2005) propose to take advantage of the new context of increased internationalisation and competition in the tertiary education sector to steer reforms, and advocate the portability of financial support to foster competition between TEIs at home or abroad and hence encourage TEIs to reform and become more attractive to students.

Another finding that is fairly consistent in the study of implementation is the importance of making sure that there is some kind of organisational arrangements buffering policy implementation against short term fluctuations in attention, such as political or organisational leadership giving top priority to the implementation of new policies and bypassing ordinary routines (Gornitzka, 1999). The importance of having 'fixers[61]' – *i.e.* key persons who are able to hold an implementation process together and exercise governance – is also underlined by Cerych and Sabatier (1986).

In addition to policy fixers, a number of authors emphasise the key role of financial tools to ensure compliance and steer TEIs' behaviour. The rationale for financial incentives or performance budgeting relies on the assumption that institutional management (principally rectors, presidents, and deans) are rational actors, and that they maximise whatever is rewarded (Johnstone *et al.*, 1998). In this logic, financial penalties for non compliance and financial incentives can considerably facilitate implementation.

With respect to the use of financial coercion to ensure compliance, Harman and Harman (2003) describe how a wave of extensive institutional mergers was successfully imposed by the Australian government in the late 1980s despite angry institutional criticisms over the direction of reforms. The reform established minimum size criteria for TEIs to be eligible to public funding, as a result of which most TEIs quickly complied and started searching for merger partners. Likewise, the Australian *Higher Education Support Act* of 2003 allows for financial penalties if the targets for student enrolments at the national, state, institutional, campus and discipline cluster levels have not been met.

But the most common use of financial tools to support policy implementation is in the form of incentives. This steering mechanism has been successfully used in Australia for

61 A fixer is an actor from outside the implementing organisation who is committed to policy objectives, who has the capacity to monitor implementation and the political resources to intervene.

nearly two decades already. In the late 1980s, Harman and Harman (2003) attribute the success of the merger restructuring process to the provision of additional funds to assist with merger expenses. Prior to 2008, the implementation of the *National Governance Protocols* in Australian TEIs had been pushed by making incremental funding increases in the *Commonwealth Grant Scheme* conditional on universities providing evidence of compliance with the protocols. The implementation by TEIs of the *Higher Education Workplace Relations Requirements* (HEWRRs) from 2005 had been promoted in the same way, through incremental funding of 5 to 7.5% for complying TEIs[62].

Finally, Fiske (1996) underlines the importance of training policies for effective and successful implementation, as a means to ensure that all stakeholders are equipped and prepared to take on the new roles and responsibilities that are required from them as a result of tertiary education reforms. This aspect is particularly important with respect to reforms of institutional governance given the longstanding tradition of collegial governance in many tertiary education systems and the current drive towards greater institutional leadership (see Chapter 3).

11.5 Implications for policy implementation

The national experiences with tertiary education reform described in this chapter and the insight from the literature on policy implementation and the political economy of reform point to a number of conditions and features of policy making that are likely to assist governments build consensus over tertiary education reforms and overcome the most common obstacles, so as to reform their tertiary education systems in ways that allow them to meet national goals. 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 the reviewed countries. The implications also need to be treated cautiously because in some instances there is not a strong enough evidence basis across a sufficient number of countries to draw inference with full confidence. Rather, the discussion attempts to distil potentially useful ideas and lessons from the experiences of countries that have been searching for better ways to reform their tertiary education systems and maximise the impact of their tertiary education strategies. Implications are grouped under several headings relating to the development of tertiary education policy and reforms, the imperative need for compromise and consensus over policy, and options to enhance compliance and support effective implementation of policies.

Development of tertiary education policy and reform

Establish ad-hoc independent committees to initiate tertiary education reforms and involve stakeholders

Whenever a reform of the tertiary education system is sought, it is important that policy proposals do not reflect the views of a single interest group. The policy development process is more likely to yield consensus and compromise among parties if policies are developed through cooperation of different stakeholders towards a common goal. Indeed, regular interactions contribute, over time, to building trust among different

62 However reforms are currently underway in this respect. Subject to changes to legislation, compliance will no longer be a condition of funding from 2008.

stakeholders and raising awareness for the major concerns of others, thereby enhancing the inclination of the different parties for compromise.

One effective way of reconciling the diverging interests of various stakeholder groups and forcing them to work together towards the development of acceptable compromises may be to establish *ad-hoc* independent committees including the various stakeholder groups, and to give these committees the mandate of diagnosing problems faced by tertiary education in the national context and to propose reforms.

Stakeholders' commitment to these committees critically depends on the credibility of the consultation process. The effective engagement of all interest groups in the policy development process and their active contribution to consensus-building can be enhanced by strong signals from government authorities on the value they give to the work of the committee.

The legitimacy of these committees can be further strengthened by involving international experts, whose role could be defined as providing an international perspective on problems faced by tertiary education and share ideas with the committees on how these problems have been addressed in different national settings for consideration in the national context.

Allow for bottom-up policy initiatives to be developed into proposals by independent committees

The potential of bottom-up policy initiatives to achieve a substantial degree of stakeholder involvement in policy design and to develop a sense of ownership for proposals emerging from this process needs to be recognised. Bottom-up initiatives may exert a strong impetus towards consensus-building for tertiary education reforms. Therefore, the working operations of independent committees responsible for policy proposals would benefit from allowing bottom-up input, *e.g.* through wide national consultations or Internet-based public discussion groups.

Recognise the different views of stakeholders through iterative policy development

The diversity of views and perspectives over tertiary education prevailing among different groups of stakeholders is an asset for the policy making process and needs to be recognised as such. Indeed, the confrontation of these various views during policy design allows the identification of the full range of side effects and drawbacks of policy proposals well ahead of their implementation. Therefore, tertiary education policy has much more to gain from the cross-fertilisation of these distinct perspectives into consensual compromises than from their antagonism and the imposition of one's views over other stakeholder groups.

The development of consensus is a continuous process of actions, discussion, and corrective actions based on feedback from various stakeholders. Policy design is best achieved through iterative development processes allowing the major and legitimate concerns of the various stakeholders to be taken into consideration. Experience suggests that iterative approaches to policy development yield better results and stand greater chances of building consensus.

Search for consensus or compromise over tertiary education policy and reform

Use pilots and policy experimentation when needed

Policy experimentation and the use of pilots may prove effective strategies to overcome blockages and foster consensus whenever stakeholders' interactions in the policy development process reach an impasse. Indeed, the limited scale and duration of pilot policy implementation allow the testing of new approaches without unduly raising levels of anxiety among their opponents. There are also political advantages to policy experimentation, as the possibility of assessing the effectiveness of policy innovations before generalising them makes it more difficult for opponents to contest policy experimentations. Pilot experimentations may thus prove useful in alleviating less legitimate resistances to tertiary education reform.

Favour incremental reforms over comprehensive overhauls unless there is wide public support for change

A related issue relates to the content of policy reforms, which are less likely to spur strong opposition if they consist in gradual adjustments than complete overhauls of existing practices. Indeed, research suggests that uncertainty about the consequence of a policy for one's situation – *i.e.* whether it will improve or worsen – increases the preference of individuals and stakeholder groups for *status quo*. In this respect, gradual reforms are less likely to blur stakeholders' vision of the future than 'big bang' reforms, and are thus more likely to secure their support and consensus.

At the same time, experience shows that more comprehensive reforms are possible when there is a widespread recognition of the need for a change to take place – *e.g.* in case of external pressure, competitive threat or common enemy – thereby suggesting that overhaul reforms are to be avoided unless wide public support for change can be obtained.

Avoid reforms with concentrated costs and diffused benefits

Experience also suggests that reforms whose costs are concentrated over a limited numbers of stakeholders while gains are too widespread to generate strong support by beneficiaries incur a high risk of veto and failure as they prompt massive mobilisation of cost-bearers without succeeding in rallying beneficiaries from the reform. One way to address this problem is to combine 'costly' reforms with other measures designed to provide some form of compensation to negatively-affected stakeholders and hence secure their support.

Identify potentials losers from tertiary education reform and build in compensatory mechanisms

An important aspect of policy development and implementation relates to the identification of the stakeholders affected by a specific policy proposal and of what each one is likely to gain or lose from the reform. Indeed, individuals and groups whose situation is likely to worsen as a result of a policy change have strong incentives to resist its adoption, and one way to foster consensus and reach a compromise is to build in compensatory mechanisms in the reform packages to garner the support of key actors.

For instance, supplementing contentious measures with elements increasing the resources available to key stakeholders are politically much easier to adopt, by addressing the issue of concentrated costs. Compensatory mechanisms include for instance salary increases or more flexible salary scales for academics, increased budgets for TEIs, or support schemes and tax incentives for students.

Create conditions for the successful implementation of reforms

In order to build consensus, it is important that all stakeholders see proposed tertiary education policies within the broader policy framework and strategy. Indeed, individuals and groups are more likely to accept changes that are not necessarily in their own best interests if they understand the reasons for these changes and can see the role they should play within the broad national strategy. There is therefore much scope for government authorities to foster the chances of successful policy implementation, by improving communication on the long-term vision of what is to be accomplished for tertiary education as the rationale for proposed reform packages.

There is also evidence that reforms which are sustained by external pressures (*e.g.* limitations of public funding, international competition, or the existence of a threat such as unemployment) stand better chances of successful implementation. This is because the recognition of a common problem has potential to lead stakeholders to respond with a united front. Some of these external pressures are largely exogenous in which case government authorities may want to raise awareness among the public and stakeholders to spur the acknowledgement of problems, while others are more endogenous, giving governments more leeway to create supportive conditions for policy implementation.

Improve communication on the benefits of reforms and the costs of inaction

Finally, there is also a case for improving and strengthening communication on tertiary education problems as well as reform proposals to address them. This includes dissemination of the evidence basis underlying the policy diagnosis, research findings on alternative policy options and their likely impact, as well as information on the costs of reform *vs.* inaction.

Such communication and dissemination is critical to gain the support of society at large for tertiary education reforms, not just the stakeholders with a direct interest – *i.e.* TEIs, students or academics. Such dissemination may be enhanced through national public discussions as well as media communication strategies. Indeed, evidence suggests that individuals and groups are more likely to accept changes that are not necessarily in their own best interests if they have a chance to participate in the debate and believe that the process has been transparent.

Implementing tertiary education policy and reform successfully

Implement the full package of policy proposals

Tertiary education reform packages often comprise a set of different policy measures, each of which has a specific role and aim in the overall strategy. In particular, it is common to propose complementary measures to address tradeoffs and counterbalance the side effects that some measures would have if taken individually. Therefore the partial implementation of tertiary reform packages incurs significant risks of the overall reform

losing coherence or yielding unintended and damaging consequences. Policy makers should therefore resist the temptation to postpone the most contentious measures of the policy package, despite the convenience of partial implementation from the perspective of political feasibility.

Support effective policy implementation

There is also a danger in implementing tertiary education policies without adequate support to ensure effective compliance of the various stakeholders in the long term. Indeed, TEI leaders, frontline academics and students' cooperation is critical to ensure that policies translate into effective change. In this respect, a number of side policies have potential to enhance compliance with tertiary education reforms and improve the effectiveness of tertiary education practices. These include coercive measures such as the giving of withholding of resources pending on policy implementation, incentive structures to encourage internal actors to adopt new policies, intermediary bodies to bypass ordinary routines and implement new policies, as well as training policies to ensure that all actors are prepared and equipped to take on their new roles and responsibilities.

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Appendix 1 – How the Review was Conducted

A1.1 Background to the OECD Review

Over the past few decades tertiary education systems have experienced significant transformations. Globalisation and the development of knowledge-based economies have put new demands and pressures upon tertiary education institutions. Tertiary education is increasingly expected to satisfy the needs of the economy and society, meet requirements for accountability and build closer links with a variety of stakeholders. During the past 20-30 years, the tertiary education landscape has changed a great deal, with increasingly diverse student populations and the emergence of new types of institutions and modes of study. Growing constraints on public funding, together with the expansion of tertiary education and the emergence of new demands, have encouraged the development of new patterns of financing and management.

Against this background, the OECD Education Committee launched the *Thematic Review of Tertiary Education* in October 2003, in response to the OECD Education Chief Executives' proposal of tertiary education as one of the five mid-term priorities for OECD work on education at their February 2003 meeting in Dublin. A meeting of National Representatives in April 2004 defined the guidelines for participation in the Review and the analytical work started in January 2005, when adequate Secretariat resources became available.

Tertiary education was also the focus of the meeting of OECD Education Ministers held in Athens in June 2006 with the theme *Higher Education - Quality, Equity and Efficiency*. Ministers noted that "Higher Education plays a vital role in driving economic growth and social cohesion" (Giannakou, 2006).

A1.2 Purposes of the OECD Review

The OECD Review was designed to respond to the strong interest in tertiary education policy issues evident at national and international levels. The principal objective of the Review was to assist countries to understand how the organisation, management and delivery of tertiary education can help them to achieve their economic and social objectives. The focus of the Review was upon tertiary education policies and systems, rather than upon the detailed management and operation of institutions, although clearly the effectiveness of the latter is influenced by the former. The Review's purposes, analytical framework and methodology are detailed in OECD (2004a). The main objectives were to:

- Synthesise research-based evidence on the impact of tertiary education policies and disseminate this knowledge among participating countries;
- Identify innovative and successful policy initiatives and practices;
- Facilitate exchanges of lessons and experiences among countries; and
- Identify policy options for policy makers to consider.

The scope of the Review included the funding and policy steering of tertiary systems; the regional role and labour market connections of tertiary education; the role of tertiary education in research and innovation; the academic career; equity in tertiary education; quality assurance and enhancement; and internationalisation.

The Review was intended to extend and add value to the existing body of international work on tertiary education. The importance of tertiary education is reflected in a wide variety of other OECD activities including an earlier review of tertiary education *Redefining Tertiary Education* (OECD, 1998), work by the Department of Economics on the policy determinants of investment in tertiary education (Oliveira Martins *et al.*, 2007), work on disability in higher education (OECD, 2003), work in the areas of science and technology (OECD, 2006; 2007a; 2008a), work by OECD's Programme on Institutional Management of Higher Education (IMHE) on the contribution of higher education institutions to regional development (OECD, 2007b), work by the Centre for Educational Research and Innovation (CERI) on *Universities Futures* (OECD, 2008b), e-learning in tertiary education (OECD, 2005), internationalisation (OECD, 2004b; 2004c; 2007c) which included the publication of the OECD/UNESCO Guidelines for Quality Provision in Cross-Border Higher Education (OECD and UNESCO, 2005). In addition, the OECD continues to strengthen the international comparative data base on tertiary education, including with the annual publication *Education at a Glance*: *OECD Indicators*.

The growing attention being paid to tertiary education policy is also evident in the work of other international organisations. The OECD Review has therefore been conducted in close co-operation with a wide range of international organisations to reduce duplication and develop synergies: the European Commission, Eurydice, EIB (European Investment Bank), UNESCO, UNESCO-CEPES (European Centre for Higher Education), UNESCO-IIEP (International Institute for Educational Planning), the World Bank, EUA (European University Association), IAU (International Association of Universities), ESU (European Students' Union), ENQA (European Association for Quality Assurance in Higher Education), and INQAAHE (International Network of Quality Assurance Agencies in Higher Education). Social partners have also been involved through the participation of TUAC (Trade Union Advisory Committee to the OECD) and BIAC (Business and Industry Advisory Committee to the OECD) in the various workshops of the Review.

A1.3 Methodology and Country Participation

Cross-Country Collaboration

The Review was based on participating countries working collaboratively with each other and with the Secretariat. It involved examining country-specific issues and policy

responses in tertiary education policy, and placing these experiences within a broader framework to generate insights and findings relevant to OECD countries as a whole. The collaborative approach provided countries with an opportunity to learn more about themselves by examining their experiences against those of other countries. It was also intended to add to the broader knowledge base by accumulating international evidence on the impact of policy reforms, and the circumstances under which they work best.

Two Complementary Strands

The Review involved two complementary approaches: an *Analytical Review strand*; and a *Country Review strand*. The Analytical Review strand used several means – country background reports, literature reviews, data analyses and commissioned papers – to analyse the factors that shape tertiary education and possible policy responses. All 24 participating countries were involved in this strand. In addition, fourteen countries chose to host a Country Review, which involved external review teams undertaking an intensive case study visit whose conclusions were then reflected in a Country Note.

Participating Countries

The countries taking part in the project were:

- *Analytical Review strand* (24 countries): Australia, Belgium (Flemish Community), Chile, China, Croatia, the Czech Republic, Estonia, Finland, France, Greece, Iceland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom.
- *Country Review strand* (14 countries): China, Croatia, the Czech Republic, Estonia, Finland, Iceland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland and Spain.

National Co-ordinator

Each participating country appointed a National Co-ordinator. The Co-ordinator was responsible for: communications with the OECD Secretariat about the Review; communications within the country about the Review; ensuring that the Country Background Report was completed on schedule; liaising with the OECD Secretariat about the organisation of the review team visit for those countries which participated in the country review strand; attending international meetings and workshops associated with the Review; co-ordinating country feedback on draft materials; and assisting with dissemination activities. National Co-ordinators are listed in Table A.1.

National Steering Committee

Most participating countries appointed a National Steering Committee representing key stakeholder groups. Its role included supporting the work of the National Co-ordinator, overseeing the preparation of the Country Background Report, and assisting in the Review more generally. Where a country decided not to establish a National Steering Committee, it established processes for ensuring that the Country Background Report adequately reflected the views and perspectives of the different stakeholder groups concerned with tertiary education policy.

Table A. 1. National Co-ordinators in the Participating Countries

Country	National Co-ordinator
Australia	Ms. Karen Sandercock, Department of Education, Science and Training (until January 2005) Mr. Jeremy Hodes, Department of Education, Science and Training (until August 2006) Ms. Shane Samuelson, Department of Education, Science and Training (until December 2007) Ms. Katherine Vickers, Department of Education, Employment and Workplace Relations
Belgium (Flemish Community)	Mr. Noël Vercruysse, Ministry of Education of the Flemish Community
Chile	Ms. Pilar Armanet, Ministry of Education (until May 2006) Mr. Julio Castro, Ministry of Education
China	Mr. Li Zhang, National Centre for Education Development Research Mr. Fan Wenyao, National Centre for Education Development Research
Croatia	Mr. Željko Dujić, University of Split
Czech Republic	Ms. Helena Sebková, Centre for Higher Education Studies
Estonia	Ms. Heli Aru, Ministry of Education and Research
Finland	Mr. Osmo Lampinen, Ministry of Education
France	Mr. Elie Cohen, Ministry of Education Ms. Nadine Prost, Ministry of Education
Greece	Mr. Manolis Koutouzis, Greek Education Research Centre Ms. Sofia Georgiadou, Greek Education Research Centre
Iceland	Mr. Stefán Stefánsson, Ministry of Education, Science and Culture (until August 2006) Mr. Arnór Guðmundsson, Ministry of Education, Science and Culture (until August 2007) Mr. Stefan Baldursson, Ministry of Education, Science and Culture
Japan	Mr. Masahide Kuriyama, Ministry of Education, Culture, Sports, Science and Technology (until January 2006) Mr. Yoshinori Murata, Ministry of Education, Culture, Sports, Science and Technology (until March 2006) Mr. Takayoshi Seiki, Ministry of Education, Culture, Sports, Science and Technology (until June 2006) Mr. Shinjiro Komatsu, Ministry of Education, Culture, Sports, Science and Technology (until July 2007) Mr. Makoto Fujiwara, Ministry of Education, Culture, Sports, Science and Technology
Korea	Mr. Jong-Gap Lee, Ministry of Education and Human Resources Development Mr. Byung-Shik Rhee, Ministry of Education and Human Resources Development Mr. Jhong Kyu Leeh, Ministry of Education and Human Resources Development Mr. Wha Jin Kim, Ministry of education and Human Resources Development
Mexico	Ms. Felicia Knaul, Ministry of Public Education (until November 2006) Mr. Eugenio Cetina, Ministry of Public Education
Netherlands	Ms. Marlies Leegwater, Ministry of Education, Culture and Science
New Zealand	Mr. Roger Smyth, Ministry of Education (National co-ordinator) Mr. Jason McClelland, Ministry of Education (Project manager) (until May 2007)
Norway	Ms. Gro Beate Vige, Ministry of Education and Research
Poland	Mr. Robert Pawlak, Ministry of National Education and Sports (until June 2006) Ms. Maria Klimkiewicz, Ministry of Science and Higher Education
Portugal	Ms. Teresa Patricio, Ministry of Science, Technology and Higher Education
Russia	Ms. Marina Larionova, Higher School of Economics Ms. Tatiana Meshkova, Higher School of Economics
Spain	Ms. Leonor Carracedo, Ministry of Education and Science (National co-ordinator) Mr. José-Ginés Mora Ruiz (Academic co-ordinator)
Sweden	Ms. Helena Mähler Lejon, Swedish National Agency of Higher Education Mr. Per Gunnar Rosengren, Swedish National Agency of Higher Education
Switzerland	Mr. Andri Gieré, Federal Office for Professional Education and Technology (until October 2007) Mr. Blaise Roulet, Federal Office for Professional Education and Technology
United Kingdom	Ms. Rachel Green, Department for Innovation, Universities and Skills Ms. Mary Gurteen, Department for Innovation, Universities and Skills

Country Background Report

Participating countries prepared a Country Background Report (CBR). These were prepared in response to a common set of issues and questions, and used a common framework to facilitate comparative analysis and to maximise the opportunities for countries to learn from each other. The background reports were a major source of material for this report. The guidelines for preparing the Country Background Reports are detailed in OECD (2004a).

The CBRs were intended to be about 100 pages in length and to be structured around the following main chapters:

1. *The national context of tertiary education*
2. *Overall description of the tertiary education system*
3. *The tertiary education system and the labour market*
4. *The regional role of tertiary education*
5. *The role of tertiary education in research and innovation*
6. *Achieving equity in and through tertiary education*
7. *Resourcing the tertiary education system*
8. *Planning, governing and regulating the system*
9. *Assuring and improving the quality of tertiary education*
10. *Internationalisation and globalisation of tertiary education*
11. *Conclusion*

The work on the CBRs took place mainly between the end of 2004 and the end of 2006. Countries differed somewhat in the time they joined the study and time needed to complete and publish their CBR. Countries also differed in the extent to which they were able to include current data and policy developments in their reports. Therefore the CBRs do not all refer to the same period, although most encompass developments up to about 2006. In early 2008 some countries prepared updates on their CBR for publication on the project website.

The CBR is intended for four main audiences: the OECD Secretariat and other countries participating in the Review as an aid to sharing experiences and providing material for this report; the team of external reviewers who visited the countries who took part in the Country Review strand; those interested in tertiary education policy issues within the country concerned; and those interested in tertiary education policy issues at the international level and in other countries. The CBRs are available from the project website: www.oecd.org/edu/tertiary/review.

Synthesis Tables

In addition to the Country Background Reports, all countries supplied qualitative detailed information on features of their tertiary education systems through a questionnaire prepared by the OECD Secretariat. The data covered mechanisms to allocate public funds to tertiary education institutions, employment and career structure of academics, governing boards in tertiary education institutions, student entrance procedures, quality assurance mechanisms, student support schemes including measures targeted at under-represented groups, provisions for internationalisation and commercialisation of public research. The information supplied by countries was published in a set of tables in this report.

Country Review Visits

Another major source of material for this report was the set of Country Notes prepared by the external review teams that visited countries taking part in the Country Review Strand. By providing an external perspective on tertiary education policy issues in the countries concerned, the Country Notes were also intended to contribute to national discussions, as well as inform other countries about policy innovations underway. The Country Notes were also published as a publication series: *OECD Reviews of Tertiary Education*, in order to enhance the visibility of these country-specific outputs as part of the Review.

For each country visited, a team of up to six reviewers (including at least one OECD Secretariat member) analysed the Country Background Report and associated materials and subsequently undertook an intensive case study visit of about 10 days in length. The reviewers were selected in consultation with the country authorities to ensure that they had experience relevant to the main policy issues in the country concerned. The study visit aimed to provide the review team with a variety of perspectives on tertiary education policy and included meetings with a wide range of national, regional and local authorities; representatives of Ministries such as education, finance, labour, industry, research, science and technology; tertiary education institutions; student organisations; representatives of academic staff; employers; the business and industry community; agencies responsible for funding and quality assurance; and researchers with an interest in tertiary education policy. The objective was to accumulate sufficient information and understanding on which to base the analysis and policy recommendations.

The fourteen review visits involved 52 external reviewers from 22 countries and with a range of research and policy backgrounds. Overall, the external review teams visited about 140 tertiary education institutions and met with about 4 000 individuals to base their findings. Details on the country review visits are given in Table A.2.

Analytical Strand Visits

Countries participating in the Analytical strand of the Review only were offered the possibility of receiving a short visit by a member of the OECD Secretariat in order to deepen the Secretariat's understanding of key policy issues and awareness of innovative policies and/or practices at the national level. These 1-2 days visits sought to better reflect the experience of the concerned countries in this report, and involved meetings between one Secretariat member and key individuals and stakeholder groups. Four Analytical strand visits were organised: Belgium (Flemish Community, 13 November, 2006), Sweden (4-5 September, 2006), the Russian Federation (12-13 April, 2007) and the United Kingdom (8-9 November, 2006).

Table A.2. Thematic Country Reviews and Team Members

Country	Review team
Norway 7-16 March 2005	Mr. Richard Sweet, OECD Secretariat (co-ordinator) Mr. Tony Clark, formerly with Department of Education and Employment, United Kingdom (Rapporteur) Mr. Karl Heinz Grüber, formerly with University of Vienna, Austria Mr. Pedro Lourtie, Technical University of Lisbon, Portugal Mr. Paulo Santiago, OECD Secretariat Ms. Åsa Sohlman, formerly with Ministry of Industry, Employment and Communications, Sweden
Iceland 26 September - 3 October 2005	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. Guy Neave, University of Twente (The Netherlands) and IAU, United Kingdom (Rapporteur) Ms. Susana Borrás, Roskilde University (Denmark), Spain Mr. Jørgen Gulddahl Rasmussen, Aalborg University, Denmark Mr. Roger Smyth, Ministry of Education, New Zealand Mr. Thomas Weko, OECD Secretariat
Korea 17-26 October 2005	Mr. Richard Sweet, Consultant to the OECD (co-ordinator) Mr. Norton Grubb, University of California – Berkeley, United States (Rapporteur) Mr. Michael Gallagher, The Australian National University, Australia Mr. Ossi Tuomi, Finnish Higher Education Evaluation Council, Finland
Finland 12-20 December 2005	Mr. Thomas Weko, OECD Secretariat (co-ordinator) Mr. John L. Davies, Anglia Ruskin University, United Kingdom (Rapporteur) Ms. Lillemor Kim, Swedish Institute for Studies in Education and Research, Sweden Mr. Erik Thulstrup, Roskilde University, Denmark
New Zealand 6-14 February 2006	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. Leo Goedegebuure, University of New England (Australia), The Netherlands (Rapporteur) Ms. Laara Fitznor, University of Manitoba, Canada Mr. Bjørn Stensaker, NIFU-STEP, Norway Ms. Marianne van der Steen, Delft University of Technology, The Netherlands
Mexico 13-23 March 2006	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. José Joaquín Brunner, Universidad Adolfo Ibáñez, Chile (Rapporteur) Ms. Carmen García Guadilla, Universidad Central de Venezuela, Venezuela Mr. Johann Gerlach, Freie Universität Berlin, Germany Ms. Léa Velho, Universidade Estadual de Campinas, Brazil
The Czech Republic 20-28 March 2006	Mr. Thomas Weko, OECD Secretariat (co-ordinator) Mr. Jon File, University of Twente (The Netherlands), United Kingdom (Rapporteur) Mr. Arthur M. Hauptman, independent public policy consultant, United States Ms. Sabine Herlitschka, Austrian Research Promotion Agency, Austria Ms. Bente Kristensen, Copenhagen Business School, Denmark
The Netherlands 24 April - 2 May 2006	Mr. Thomas Weko, OECD Secretariat (co-ordinator) Mr. Simon Marginson, Monash University, Australia (Rapporteur) Ms. Nicola Channon, Quality Assurance Agency for Higher Education, United Kingdom Ms. Terttu Luukkonen, Research Institute of the Finnish Economy, Finland Mr. Jon Oberg, formerly US Department of Education, United States
Poland 7-16 May 2006	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. Oliver Fulton, University of Lancaster, United Kingdom (Rapporteur) Mr. Charles Edquist, Lund University, Sweden Ms. Elaine El-Khawas, George Washington University, United States Ms. Elsa Hackl, University of Vienna, Austria
Japan 14-24 May 2006	Mr. Thomas Weko, OECD Secretariat (co-ordinator) Sir Howard Newby, University of West England, United Kingdom (Rapporteur) Mr. David Breneman, University of Virginia, United States Mr. Thomas Johanneson, STFI-Packforsk AB, Sweden Mr. Peter Maassen, University of Oslo, Norway

Croatia 9-16 June 2006	Mr. Abrar Hasan, OECD Secretariat (co-ordinator) Mr. Chris Duke, RMIT University, Australia (Rapporteur) Mr. Paul Cappon, Canadian Council on Learning, Canada Mr. Werner Meissner, Goethe Universität, Germany Ms. Hilary Metcalf, National Institute of Economic and Social Research, United Kingdom Mr. Don Thornhill, National Competitiveness Council of Ireland, Ireland
Estonia 24 September - 3 October 2006	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. Jeroen Huisman, University of Bath (United Kingdom), The Netherlands (Rapporteur) Mr. Per Högselius, Lund University, Sweden Ms. Maria-José Lemaitre, The National Commission for Programme Accreditation, Chile Mr. William Thorn, Department of Education, Science and Training, Australia
China 5-16 March 2007	Mr. Abrar Hasan, OECD Secretariat (co-ordinator) Mr. Michael Gallagher, The Australian National University, Australia (Rapporteur) Ms. Mary Canning, formerly with the World Bank, Ireland Sir Howard Newby, University of West England, United Kingdom Ms. Lichia Saner-Yiu, Centre for Socio-Eco-Nomic Development, Switzerland Mr. Ian Whitman, OECD Secretariat
Spain 20-29 May 2007	Mr. Paulo Santiago, OECD Secretariat (co-ordinator) Mr. José Joaquín Brunner, Universidad Adolfo Ibáñez, Chile (Rapporteur) Mr. Guy Haug, formerly with the European Commission, France Mr. Salvador Malo, Mexican Institute for Competitiveness, Mexico Ms. Paola di Pietrogiacomo, Institute for Perspective Technological Studies of the European Commission Joint Research Center (Spain), Italy

Note: The Country Notes prepared by the review teams are available from: *www.oecd.org/edu/tertiary/review*

Commissioned and Background Papers

The Review was also enriched through commissioned and background papers taking up particular issues in depth:

- *The Roles of Tertiary Colleges and Institutions: Trade-offs in Restructuring Postsecondary Education*, by W. Norton Grubb, University of California, Berkeley, 2003;
- *Quality Assurance in Tertiary Education: Current Practices in OECD Countries and a Literature Review on Potential Effects*, by Viktoria Kis, 2005; and
- *Tertiary Education Systems and Labour Markets*, by Stephen Machin and Sandra McNally, Centre for the Economics of Education, London School of Economics, 2007.

Workshops

In order to facilitate sharing of lessons and experiences among participating countries, workshops were periodically organised throughout the Review. In addition to the country presentations, international experts and key stakeholders were invited to contribute to the debate. Details on the workshops are provided in Table A.3.

Table A.3. Workshops of Participating Countries

Date and location	Hosts	Main Issues treated
Bern, Switzerland 6-7 June 2005	Swiss Federal Office for Professional Education and Technology (OPET)	– Discuss the organisation and timing of the various elements in the Review; – Exchange information among participating countries about launching and organising the work; – Learn of other relevant work by other international agencies and other OECD units; – Exchange ideas about emerging issues in tertiary education; and – Discuss issues particular to the Swiss tertiary education system.
Paris, France 26-27 January 2006	OECD	– Update national and international progress on the Review; – Update related work by the OECD and other international organisations; and – Organise moderated discussion sessions on leading topics encompassed by the Review, including human resources, funding, governance, and quality assurance.
Prague, the Czech Republic 30 November – 1st December 2006	Ministry of Education, Youth and Sports of the Czech Republic	– Update national and international progress on the Review; – Update related work by the OECD and other international organisations; – Initiate the preparation of the Final Synthesis Report: discussion of an 'Extended Outline', the main issues and findings, and the process for completing the report; and – Discuss the project's commissioned paper on Labour Markets and Tertiary Education, by Stephen Machin and Sandra McNally from the London School of Economics.
Paris, France 27-28 September 2007	OECD	The main purpose of the Workshop was to discuss the first draft of Final Synthesis Report from the Review. The Workshop also included: – An update on national and international progress on the Review; – An update on related work by the OECD and other international organisations; – A discussion of potential dissemination activities and possible future work on tertiary education policy.

Dissemination

The Review had a strong emphasis on dissemination from the outset. Participating countries were encouraged to consult widely with the tertiary education community in the preparation of Country Background Reports. A number of countries published their reports. When conducting the country review visits the review teams sought the views of large numbers of organisations and individuals.

To facilitate dissemination and encourage feedback, all project documents have been placed on the Review's website www.oecd.org/edu/tertiary/review. Throughout the Review, the OECD Secretariat made a large number of presentations about the project to a wide range of meetings and to groups of visitors to the OECD.

The Ministry of Science, Technology and Higher Education of Portugal hosted an international conference in Lisbon on 3 and 4 April 2008 with the sponsorship of the

Portuguese Foundation for Science and Technology to conclude the Review and launch this report. The conference was locally organized by the *Instituto Superior de Ciências do Trabalho e da Empresa* (ISCTE), a public university based in Lisbon. The conference, entitled *Tertiary Education for the Knowledge Society*, examined how tertiary education policy can help countries achieve their economic and social goals. Details are available on the Conference's website: (to be provided in the draft for publication). National and regional conferences are also planned.

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Appendix 2 – Structure of Tertiary Education Systems

AUSTRALIA

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	37[1]	954,595 (*m*)[2]	14% between 2001 and 2006[3]	ISCED 5A-5B-6	Education/ Humanities and arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing[4]	Aims and objectives: Australia's higher education system aims to achieve quality, diversity and equity of access, to contribute to the development of cultural and intellectual life in Australia, and to meet Australia's social and economic needs for a highly educated and skilled population. Governance: Universities are established or recognised under State or Territory legislation. Public universities are subject to a wide range of State and Territory legislation in addition to their enabling legislation. Australia's universities have a reasonably high level of autonomy. The governing board is the Council, Senate or Board of Governors, presided over by a Chancellor elected by the members of the governing body. Members come from government, industry, the community, academic staff, graduates and students. The chief executive authority rests with the Vice-Chancellor. Programmes and qualifications: Australian universities are comprehensive institutions that offer a wide range of programmes to students, including undergraduate and postgraduate awards and sub-degree qualifications such as Associate Degrees. Higher education qualifications are accredited through the Australian Qualifications Framework (AQF). Internationalisation: Over the last decade, Australian universities have built a successful higher education export industry and overseas students now represent a substantial percentage of the student body in many institutions. Between 1992 and 2005, the overseas student load as a percentage of total student load increased from 7% to 26%. In 2002, Australia had the highest such percentage of all OECD countries.
	Technical and Further Education (TAFE) Institutes	69	1,325,072	1.6% between 2001 and 2006[3]	ISCED 2C-3C- 4C-5B	Arts Entertainment Sport and Recreation/ Automotive, Building and Construction/ Community Services Health and Education/ Finance Banking and Insurance/ Food Processing/ Textile, Clothing, Footware and Furnishings/ Engineering and Mining/ Primary Industry, Process Manufacturing, Sales and Personal Services/Tourism and Hospitality/ Transport and Storage/ Utilities, Business and Clerical/ Computing, Science Technical and Training/ General Education and Training	Technical and Further Education (TAFE) institutions are state and territory government institutions and are a key part of the National Training System for the delivery of Vocational Education and Training. Aims and objectives: Vocational education and training aims to provide skills and knowledge for work, enhance employability and assist learning throughout life. VET delivers high quality nationally consistent training outcomes for industry, employers and individuals. Governance: The Australian, state and territory Ministers work collaboratively to support the National Governance and Accountability Framework which establishes the decision making processes and bodies responsible for training, as well as planning and performance monitoring arrangements for the system. Features: A flexible system offering a range of training from short term non accredited courses to nationally recognised qualifications leading to employment or further education. The National Skills Framework sets out the system's requirements for quality and national consistency in terms of qualifications and the delivery of training. Accredited courses are part of the Australian Qualifications Framework (AQF). Quality assurance is provided through the Australian Quality Training Framework (AQTF). Consultation with Industry is a strong feature. Industry Skills Councils (ISCs) provide an accurate industry perspective and support the continuous development of quality nationally recognised training products and services. Training Packages based on competency standards are developed by ISCs.
	Self-accrediting higher education institutions	3[1]	2,034(*m*)[2]	-29.4% between 2001 and 2006[3]	ISCED 5A-5B-6	Education/ Humanities and arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and Construction[4]	Public self-accrediting higher education institutions in Australia comprise: the Australian Film, Television and Radio School; Australian Maritime College (which will amalgamate into the University of Tasmania, effective 1 January 2008); and Batchelor Institute of Indigenous Tertiary Education.
Private	Universities	2[1]	*m*[5]	*m*[5]	ISCED 5A-5B-6	Education/ Humanities and arts/ Social Sciences, Business and Law/ Services/ Health and Welfare/ Life Sciences/ Physical Sciences/ Computing[4]	There are two private universities in Australia: Bond University and the University of Notre Dame.
	Self-accrediting higher education institutions	1[1]	*m*[5]	*m*[5]	ISCED 5A-5B-6	Humanities and arts[4]	There is one private self-accrediting higher education institution in Australia: the Melbourne College of Divinity.
	Non-self accrediting higher education providers	More than 150 (including public providers)[1]	*m*[5]	*m*[5]	ISCED 5A-5B	Education/ Humanities and arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing[4]	Governance: Many private providers are established under corporations' law. Many of the private providers are accredited as both higher education providers and registered training organisations. There are a small number of public non-self accrediting higher education providers. Private providers must have a legally constituted governing body as stipulated under the National Protocols for Higher Education Approval Processes and accompanying Guidelines. The Guidelines make clear that the governing body must ensure all the institution's operations, including its governance, are systematically reviewed and that strategies are implemented to improve institutional performance. The governing body must also have access to the range of expertise required for effective governance of the institution, including financial expertise, through its membership and/or through external advisers.
	Private VET providers	Approx. 4,200	*m*[5]	*m*[5]	ISCED 2C-3C- 4C-5B	Arts Entertainment Sport and Recreation/ Automotive, Building and Construction/ Community Services Health and Education/ Finance Banking and Insurance/ Food Processing, Textile, Clothing, Footware and Furnishings/ Engineering and Mining/ Primary Industry, Process Manufacturing, Sales and Personal Services/ Tourism and Hospitality/ Transport and Storage/ Utilities, Business and Clerical/ Computing, Science Technical and Training/ General Education and Training	Private VET providers are an important part of the National Training System for the delivery of Vocational Education and Training. They often complement the TAFE systems and have the ability to move flexibly to meet the changing demands of industry and employers. Aims and objectives: Vocational education and training aims to provide skills and knowledge for work, enhance employability and assist learning throughout life. VET delivers high quality nationally consistent training outcomes for industry, employers and individuals. Governance: The Australian, state and territory Ministers work collaboratively to support the National Governance and Accountability Framework which establishes the decision making processes and bodies responsible for training, as well as planning and performance monitoring arrangements for the system. Features: Private providers must be registered as part of the national training system to deliver national qualifications. The National Skills Framework sets out the system's requirements for quality and national consistency in terms of qualifications and the delivery of training. Accredited courses are part of the Australian Qualifications Framework (AQF). Quality assurance is provided through the Australian Quality Training Framework (AQTF). Consultation with Industry is a strong feature. Industry Skills Councils (ISCs) provide an accurate industry perspective and support the continuous development of quality nationally recognised training products and services. Training Packages based on competency standards are developed by ISCs.
Other	Overseas branch of Australian university	1[1]	*m*[5]	*m*[5]	ISCED 5A-5B	Humanities and arts/ Social Sciences, Business and Law[4]	There is one Australian branch of an overseas university: Carnegie Mellon University.

Notes: *m*: Information not available; TAFE: Technical and Further Education

1. Lists of all Australian universities and other self-accrediting higher education institutions, as well as lists of all private providers registered in States/Territories, are available at the Australian Qualifications Framework (AQF) website: www.aqf.edu.au
2. Year of reference, 2006. Department of Education, Employment and Workplace Relations, Higher Education Student Collection, from www.dest.gov.au.
3. Department of Education, Employment and Workplace Relations, Higher Education Student Collection, from www.dest.gov.au.
4. Higher education categories listed in OECD (2004), *Education at a Glance 2004, Table A4.1* , Paris, OECD.
5. There is no comprehensive data collection that captures all private higher education providers.

Source: References and information supplied by countries participating in the project.

BELGIUM (FLEMISH COMMUNITY)

	Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Universities	6	36%	*m*	ISCED 5A-6	Health and Welfare/ Education/Humanities and Arts/ Engineering, manufacturing, and construction/ Social Sciences, Business and Law/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Services/ Agriculture	Aims and objectives: a university is an institute that is active in the field of academic education, research and scientific services. Governance: Organic autonomy recognises the right of institutions of higher education to determine their own academic organisation, but the subjects offered by universities are often confined to the areas of study for which they have obtained validation, recognition or accreditation. Programmes' emphasis: Universities carry on research programs. Their programs are more theoretically oriented. 'Doctor' (PhD) is the highest level of specialisation in research. This degree is only awarded by Universities. Research emphasis: they are the major actors in the Flemish scientific research system. They provide about 85% of the total Flemish scientific paper output. Cooperation: Co-operation between a university and one or more hogescholen known as 'association' exist within the system. Its purpose is to evolve into co-operating entities on education and research, and the development of fine arts. Other actions are to harmonise the fields of study as well as to create bridges between Bachelor's and Master's studies.
Hogescholen	22	64%	*m*	ISCED 5A-5B	Health and Welfare/ Education/Humanities and Arts/ Engineering, manufacturing, and construction/ Social Sciences, Business and Law/ Services/ Agriculture/ Computing	Programmes' emphasis: Hogescholen provide a 'more professionally orientated education'. Courses are therefore practice-oriented and include periods of work placement. Education at Hogescholen has two forms: a short and a long one. One-cycle programs have been converted to the level of bachelor's degree. Professional bachelor degrees give access to some master programmes after a 'bridging course'. Since 1991, Hogescholen provide academic bachelor and master courses in association with universities. The Hogescholen / university board stipulates which master degrees give access to these specialised and advanced master programmes. Governance: The legislator establishes the general legal framework for Hogescholen, which is stricter than for universities. There are three legal types of 'Hogescholen'. One type is composed of former state Hogescholen, which are now called autonomous Hogescholen. The second are the provincial institutes, and the third type is composed of independent subsidised institutes, practically all of which are run by boards belonging to a Catholic network. The structure of the state institutions is still fixed by decree, in contrast with that of the subsidised institutions, for which only the democratic representation of the students and the staff is regulated by decree. The non governmental tertiary education institutions have their own bye-laws, and their own requirements of commitment to a particular ethic when recruiting staff. The Flemish Ministry subsidises and recognises establishments set up by private interests or by local authorities (provinces), and assigns grants to the organising networks which have met the necessary prior conditions as set down in law. Such grants are for equipment, to offset running costs or in support of staff salaries. The higher education legislation of the early 1990s shaped a policy based on the principles of deregulation, autonomy, and accountability. Research emphasis: Hogescholen carry out applied scientific research.

Notes: *m*: Information not available

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005,* European Commission).

CHILE

	Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
State University (part of the University Rectors' Council)	16	*m*	*m*	ISCED 5-6	Social Sciences, Business, and Law/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Computing/ Services/ Health and Welfare/ Agriculture/ Sciences	Programmes' emphasis: Universities which can grant any kind of professional or technical qualification; they are the only institutions that can grant academic degrees and teach those professions regulated by law (for example, Medicine, Teacher training, Law, Engineering) with the prior requirement of an academic degree (Licenciatura). Although there is no difference between both types of university in terms of professions and programmes, universities that are part of the University Rectors' Council concentrated on research and postgraduate work.
Traditional private universities (part of the University Rectors' Council)	9	*m*	*m*	ISCED 5-6	Social Sciences, Business, and Law/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Computing/ Services/ Health and Welfare/ Agriculture/ Sciences	Programmes' emphasis: Universities which can grant any kind of professional or technical qualification; they are the only institutions that can grant academic degrees and teach those professions regulated by law (for example, Medicine, Teacher training, Law, Engineering) with the prior requirement of an academic degree (Licenciatura). Although there is no difference between both types of university in terms of professions and programmes, universities that are part of the University Rectors' Council concentrated on research and postgraduate work.
Private universities	36	23%	*m*	ISCED 5-6	Social Sciences, Business, and Law/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Computing/ Services/ Health and Welfare/ Agriculture/ Sciences	Programmes' emphasis: Although there is no difference between both types of university in terms of professions and programmes, private universities concentrate almost exclusively on undergraduate teaching. Funding: Private universities created after 1980 do not receive base funding from the State and are not eligible for some instruments such as public student loan system and some scholarship programmes.
Professional institutes	42	17%	*m*	ISCED 5	Social Sciences, Business, and Law/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Computing/ Services/ Health and Welfare/ Agriculture/ Sciences	Programmes' emphasis: Professional institutions unlike universities, cannot grant academic degrees. Typically the IP teaches four year professional programmes at the 5A level; there are an important number of 5B programmes in these institutions. Funding: All are private, self financed and non-profit.
Technical Training Centres	105	12%	*m*	ISCED 5B	Social Sciences, Business, and Law/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Computing/ Services/ Health and Welfare/ Agriculture/ Sciences	Programmes' emphasis: Technical Training Centres which can only teach technical programmes (ISCED 5B) which normally require between 2 and 2.5 years of study. Funding: They are private institutions and can be for-profit or non-profit.

Notes: *m* : Information not available

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Reviews of national policies for education: Chile* , Paris, OECD).

CHINA

			Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Publically-run institutions	Regular Tertiary Education Institutions other than tertiary vocational- technical colleges(mostly universities)	886	18,493,100 (including tertiary-vocational- technical colleges)	*m*	ISCED 5-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: colleges and universities place emphasis on research, and general formal education.
		Adult tertiary education institutions	444	5,248,800	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: their role is to offer skill training and community service.
		Tertiary vocational- technical colleges	981	*m*	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: their objectives are to teach and serve regional economic development.
		Research institutes	317	*m*	*m*	ISCED 6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	*m*
	Privately-run institutions	Independently-established minban TEIs	278	1,337,900	*m*	ISCED 5-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: they are funded and operated by social forces. They consist of minban regular TEIs and two minban adult TEIs. 24 institutions are offering bachelor-degree granting programs. Some minban universities possess a relative higher level of overall capability in running tertiary institutions. Their flexible system allows them to respond quickly to the changing demands of the socio-economic development.
		Independent colleges	318	1,467,000	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: they offer undergraduate education with the cooperation between public regular TEIs and social sectors. Without governmental financing, the funding is provided by cooperative partners or by collective forces. The tuitions fees for independent colleges are set with reference to the related state regulations. The independent colleges, are well-known for distinctive "independences" (independent legal entity, independent infrastructure and campus, independent teaching organisation and management, independent admission and degree-granting, independent financing and accounting.
		Non-state/private TEIs	994	939,000	*m*	ISCED 5	Economics/ Law/ Literature/ Engineering/ Agronomy/ Management	*m*
		Tertiary education agencies for self-taught learners	*m*	*m*	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: minban TEIs for self-taught learners are approved by educational authorities, funded by various social forces, reviewed by and registered at self-taught examination organisations. Aims and objectives: they aim at providing relevant professional courses for self-taught individual.

Notes: *m:* Information not available; TEI: Tertiary education institution

Source: Information supplied by countries participating in the project.

CROATIA

		Number of Institutions[1]	Size (share of the student population)[2]	Growth trends[3]	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	7	116,065 (82,91%)	43% between 2001/02 and 2006/07[4]	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, business and law/ Services/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Other	Universities (sveučilišta) are higher education institutions which deliver university study programmes in at least two scientific and/or art areas in a greater number of fields. Exceptionally, universities may also deliver professional study programmes. Universities may have constituted higher education institutions which are legal entities and are called faculties (fakulteti) or art academies (umjetničke akademije). Universities and their constituents deliver study programmes and conduct scientific research and other professional and art activities. Public universities are established by a law.
	Polytechnics and Schools of professional higher education	15	17,507 (12.51%)	-36% between 2001/02 and 2006/07[4]	ISCED 5B	Social Sciences, business and law/ Services/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Computing/ Other[5]	Polytechnics (veleučilišta) and schools of professional higher education (SPHE, visoke škole) are higher education institutions which deliver professional study programmes. The two institutions differ in scope: polytechnics are those schools of professional higher education which deliver professional study programmes in three or more scientific fields. Their mission is to offer application-oriented programmes which are professional in character, and which often include practical work experience in the general area of study. Polytechnics and SPHEs are expected to offer high-level professional education, and artistic and professional training according to the needs of their local communities. Public polytechnics and SPHEs are established by a decree of the Croatian Government.
Private	Polytechnics and Schools of professional higher education	20	6,424 (4.58%)	246% between 2001/02 and 2006/07	ISCED 5B	Humanities/ Social Sciences and business/ Services/ Engineering, manufacturing and Construction/Computing/ Other[5]	Private polytechnics and schools of professional higher education do not differ in character or mission from the same public higher education institutions. Governance: Private universities, polytechnics and schools of professional higher education can be established by the founders in the manner prescribed by the provisions of the law and regulations relating to the establishment of institutions.

Notes: *m* : Information not available; SPHE: School of professional higher education

1. Year of reference, 2007. Ministry of Science, Education and Sports, 2007.
2. Year of reference, academic year 2006/2007. Central Bureau of Statistics, from www.dzs.hr.
3. Central Bureau of Statistics, from www.dzs.hr.
4. Over that period, the Polytechnic of Split was absorbed into the neighbouring university, while the Polytechnic of Dubrovnik was redesignated as a university. Several teachers' schools of professional higher educations were absorbed into universities. Excluding these cases, public polytechnics and schools of professional higher education grew by 9% between 2001/02 and 2006/07 according to the Central Bureau of Statistics.
5. The information provided in this column describes the current offer of programmes at polytechnics and SPHEs. Apart from the necessary professional focus of the programmes, there is no legal limit on the areas that may be covered in the programmes offered by polytechnics and SPHEs.

Source: References and information supplied by countries participating in the project.

CZECH REPUBLIC

		Number of Institutions[1]	Size (share of the student population)[1]	Growth trends[2]	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Higher education institutions: universities	26 (24-public 2-state)	295,127 (82.99%)	39% between 1995/96 and 2000/01; 42.4% between 2001/02 and 2006/07	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Others	Aims and objectives: their aim is to foster scientific, research, development, artistic, or other creative activities. Research emphasis: Basic research predominates over applied research. Programmes' emphasis: university-type institutions offer all types of programmes (at least up to and including the Master's level). Practical training is part of a large number of programmes. it predominates in programmes of Bachelor's level. Governance: Public HEIs of university type are established by law, and are legal persons. They are highly autonomous, they decide about the start and about the number of enrolled students (numbers of students are limited only by public sources, in practice the numbers are negotiated jointly by the Ministry and institutions themselves). Students of public and state do not pay tuition fee (the exception is the "penalty" fee for prolonged studies comparing the settled duration of a particular degree programme and studies in foreign languages). State HEIs are also established by law, and they are subordinated to the Ministry of Defence or the Ministry of the Interior.
	Higher education institutions: other than universities	2	1,104 (0.31%)	*m*[3]	ISCED 5A	Business/ Services/ Engineering, Manufacturing and Construction/ Computing/	Research emphasis: it conducts more applied oriented research activities. Programmes' emphasis: non-university type institutions offer mostly Bachelor degree programmes, they can offer Master degree programmes but they are not allowed to offer Doctoral degree programmes. Governance: the same as in the case of public HEIs of university type
	Tertiary professional schools	126 (113-regional 12-church 1-state)	19,463 (5.47%)	-7.6% between 1995/96 and 2000/01; 3.6% between 2001/02and 2006/07	ISCED 5B	Humanities and Art/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and construction/ Agriculture/ Health and Welfare/ Computing/ Others	Research emphasis: Public TPSs carry out very limited research activities. Programmes' emphasis: they offer vocational education programmes that do not lead to an academic degree. The practice-oriented studies they offer require more intensive cooperation
Private	Higher education institutions: universities	2	6,579 (1.85%)	*m*[4]	ISCED 5A	Education/Social Sciences, Business and Law	Research emphasis: Private HEIs are expected to carry out research activities similarly as public HEIs of university type. Currently they provide research only in limited areas (comparing to public HEIs) in accordance with degree programmes they offer. Programmes' emphasis: It is they similar as of public HIEs of university type; the range of study areas is not so broad as in the case of public HEIs due to the short time of their existence (they both were established during the last two years). Governance: The possibility of establishing a private HEI was only introduced with the Act of 1998. They are established by private entity after the state approval which is awarded on the expert view of the Accreditation Commission which has the power to decide about the type of a HEI (university or non-university type). Internal governance depends on the type of the particular private entity, it is not stipulated by the Act on higher education institutions.
	Higher education institutions: other than universities	41	25,176 (7.08%)	-7.6% between 2001/02 and 2006/07	ISCED 5A	*m*	Research emphasis: Private HEIs carry out very limited research activities. Programmes' emphasis: private HEIs were expected to meet the demand for fields of study in areas in which public tertiary education was underrepresented. Governance: the possibility of establishing a private HEI was only introduced with the Act of 1998. They are established by private entity after the state approval which is awarded by the Ministry on the expert view of the Accreditation Commission. The term "private HEI" is currently practically synonymous with the term "HEI of the non-university type", since newly opened private HEIs were not able to show sufficient experience in the area of research and development, which is a necessary prerequisite for the accreditation of Master's programmes. As a result, they mostly submitted Bachelor's programmes for accreditation, and thus they were classified as non-university type HEIs. At this point, private HEIs will be able to apply for a change in their status to that of a university-type institution, conditional upon approval by the Accreditation Commission.
	Tertiary professional schools	48	8,184 (2.3%)	9.18% between 2001/02 and 2006/07	ISCED 5B	Humanities and Art/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and construction/ Agriculture/ Health and Welfare/ Computing/ Others	Research emphasis: Private HEIs carry out very limited research activities.

Notes: *m*: Information not available; HEI: Higher education institution; TPS: Tertiary professional school

1. Year of reference, 2006. Institute for information on education-IUV (2007), Statistical Yearbook on Education 2006-2007.
2. Institute for information on education-IUV (2007), Statistical Yearbook on Education 2006-2007.
3. Only established in 2004 and 2006.
4. Redesignated as universities in 2005 and 2006.

Source: References and information supplied by countries participating in the project.

ESTONIA

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	6	63%	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Research emphasis: higher education and R&D activities are concentrated, with a few exceptions, in four public universities and related institutions. Aims and objectives: Universities are defined as institutions of research, development, study and culture with higher education levels in several fields of study. Governance: Universities are granted a broad institutional autonomy regarding the academic and economic/ financial policies that have to be in accordance with their missions and teaching and research goals. Each university has developed its own approach towards the regions, some of them have established a proactive regional policy. For the accountability purposes and linking the university and society there is a special body created, called kuratoorium with a limited powers. Universities are accountable to the State Audit Office for their financial matters.
	State professional higher education institutions	10	14%	*m*	ISCED 5B, in a few cases 5A	Education/ Humanities and Arts/Social Science/ Natural Sciences/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health	Aims and objectives: the main objective of institutions of professional higher education is teaching. Performing applied research is secondary. Research emphasis: these institutions conduct applied research activities. Programmes' emphasis: State professional higher education institutions (PHEIs) are highly specialised. They offer professional higher education programmes with a length of 4 years. For graduates it is possible to continue their studies at university on the Master's level. During last years some of them have been granted the authority to provide master programs on their own (with the cooperation with universities). Governance: State PHEI-s are depend to some extent on the Ministry of Education and Research on their academic policies (i.e. their statutes are established and development plans are approved by the Minister). On financial matters, also, they are accountable towards the Ministry of Education and Research.
	State VET schools providing higher education	2	1.5%	*m*	ISCED 5B	Social Sciences, Business and Law/Engineering, Manufacturing and Construction/ Computing	Based on the Higher Education Strategy for 2006-2015 higher education provision in Estonia is mostly limited to universities and professional higher education institutions. Almost all VET institutions that provided tertary education programs have been since mid 90 -- after the accredition procedures - upgraded into professional higher education institutions (during 2004-2007). Based on strategy document there is an expectation that tertiary provision in VET schools will remain a very limited in its size and only in regions.
Private	Universities	5	9%	*m*	ISCED 5A-5B-6	Humanities and Arts/ Social Sciences, Business and Law/ Services, Computing	Aims and objectives: their main priority is to provide study on a specialist-level. The extent of Doctoral study and R&D is very limited. Governance: Private higher education institutions have the right to award the state diploma only to the graduates who have completed an accredited study programme. If an institution of higher education based on private capital provides education in a field of study important to the state, study places financed from the state budget. In addition, the schools may accept students who pay for their own education. In that case, the tuition fee is fixed by the school and there are no limits to it from the state. They must have an education licence that grants them the right to provide instruction. An education licence issued for a specified term is issued and revoked by a directive of the Minister of Education and Research.
	Private professional higher education institutions	11	12%	*m*	ISCED 5B, in few cases 5A	Humanities and Arts/ Social Sciences, Business and Law/ Services/Computing	Research emphasis: These institutions conduct applied research activities. Links with the labour market: most of the private PHEIs have strong links with the employer community. Programmes are mostly of a length of three years. Governance: Private higher education institutions have the right to award the state diploma only to the graduates who have completed an accredited study programme. If an institution of higher education based on private capital provides education in a field of study important to the state, study places financed from the state budget. In addition, the schools may accept students who pay for their own education. In that case, the tuition fee is fixed by the school and there are no limits to it from the state. They must have an education licence that grants them the right to provide instruction. An education licence issued for a specified term is issued and revoked by a directive of the Minister of Education and Research.
	Private VET schools providing higher education	1	0.5%	*m*	ISCED 5B	Services	Programmes' emphasis: there is one private VET school offering professional higher education programmes, the Estonian School of Hotel and Tourism Management. Programmes are mostly of a length of three years. Governance: Private higher education institutions have the right to award the state diploma only to the graduates who have completed an accredited study programme. If an institution of higher education based on private capital provides education in a field of study important to the state, study places financed from the state budget. In addition, the schools may accept students who pay for their own education. In that case, the tuition fee is fixed by the school and there are no limits to it from the state. They must have an education licence that grants them the right to provide instruction. An education licence issued for a specified term is issued and revoked by a directive of the Minister of Education and Research.

Notes: *m*: Information not available; VET: Vocational education and training; PHEI: Professional higher education institutions

Source: Information supplied by countries participating in the project and derived from the Background Reports.

FINLAND

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	20	152,000 (54%)[1]	28% between 1996 and 2006	ISCED 5A-6	Health and Welfare/ Agriculture/ Humanities and Arts/ Engineering, manufacturing and construction/ Social Sciences, business and law/ Services/ Education/ Life sciences/ Physical Sciences/ Mathematics and statistics/ Computing[2]	Aims and objectives: Universities have four missions assigned by the Universities Act (1997): to promote free research; to promote scientific and artistic education; to provide higher education based on research; to educate students to serve their country and humanity, and to promote regional cooperation. The supply of programmes: In 2005 an act amending the Universities Act (556/2005) was passed. It defines the normative duration for lower (Bachelor's) degree 180 ECTS credits/3 years and for the higher (Master's) degree 120 ECTS credits/2 years. The development of the third-cycle degrees (Doctoral education) is in process. Research emphasis: they conduct most of the theoretically oriented research activities, but they also work closely with business in research activities. Levels of autonomy: Universities are part of the state legal personality (state budgetary system). Amendment of the Universities Act which is currently under the preparation will increase universities' financial and administrative autonomy. As of 2010 universities will form a new type of a legal person under public law, which would mean their legal separation from the state legal personality and the endowment of a separate legal personality to universities. Institutional funding: Budget funding 0,75% of GDP (2006). Budget funding and building investments EUR 1,260 million, supplementary funding EUR 698 million. Funding decisions for universities: Academy of Finland EUR 126 million, National Technology Agency (Tekes) EUR 87 million. Links to region and local communities: The societal service mission of universities alongside education and research was clarified in an amendment of the Universities Act (715/2004) which came into force 1.8.2005. Universities' third function is to interact with society and promote the social impact of scientific and cultural activity. This new provision was taken into account by means such as determining different forms of interaction with society as part of strategic development/plans. Universities have also defined their priorities which, in regional terms, is evident in terms of targeting their R&D projects to their strong knowledge areas. Another new provision makes it compulsory to have at least one and at most one third of the board members who are not members of the university body e.g. representatives from business and industry.
Public or private	Polytechnics	26	130,000 (46%)[3]	193% between 1996 and 2006[4]	ISCED 5A- 5B	Humanities and Arts/ Social Sciences, Business, and Law (Journalism and Information, Business and Administration)/Science (Computing)/ Engineering, Manufacturing and Construction/ Agriculture (Agriculture, Forestry and Fishery)/ Health and Welfare/ Services	Aims and objectives: their mission is to provide education closely connected to the labour market, and to conduct applied research activities and to support regional development. The supply of programmes: Polytechnic Bachelor's degree 210-240 ECTS credits/ 3,5-4 years full-time study, Polytechnic Master's degree 60-90 ECTS credits/ 1,5-2 years. Polytechnics offer also professional specialisation and other adult education Programmes' emphasis: All the Bachelor's degree programmes include obligatory work practice. Research emphasis: The role of polytechnic R&D is to serve education and its development, as well as local business and industry and its development. The governance and levels of Autonomy: Polytechnics are municipal or private institutions. The maintaining organisation decides on strategic development of the polytechnic and adopts the action and economic plan and the budget. Polytechnics have autonomy in their internal affairs. The internal administration of polytechnics is managed by the board and the rector. Institutional funding: The government and local authorities share the cost of polytechnic core funding.

Notes: *m:* Information not available

1. Year of reference 2006. Ministry of Education of Finland, KOTA-database.
2. OECD (2004), Education at a Glance 2004, Table A4.1, Paris, OECD.
3. Year of reference 2006. Ministry of Education of Finland, Amkota database.
4. Polytechnics have only started to operate in 1991-1992.

Source: References and information supplied by countries participating in the project.

FRANCE

		Number of Institutions	Size (share of the student population)[1]	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	60	1,421,719	22.57% between 1990/91 et 2005/06	ISCED 5-6	Education/ Services/ Life Sciences/ Physical Sciences/ Mathematics/ Humanities and Arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and construction/ Agriculture/ Computing/Health and Welfare/ Others	Governance, programmes, and conditions of admission: Multidisciplinary universities are the most numerous ones. To be admitted, one needs to obtain the *baccalauréate,* an equivalent diploma, or the university studies access diploma. However, to be admitted to a technological institute, the candidate must go through a selection based on the candidate's former school results and an interview. Governance: They are composed of training and research units, and include institutes and internal schools, among which technological institutes and vocational institutes. In technological institutes, the director is the person responsible for incomes and expenditures, and he has authority on the staff. Unlike with others institutions, the Education Ministry can directly allocate resources to university-type institutions.
	University institutes of teacher training	*m*	82,000	-0.51% between 1991/92 et 2005/06	ISCED 5-6	Education	Primary or secondary level teacher training is provided at the university institutes of teacher training, which are public administrative institutes attached to one or more universities.
	Ecoles and *Grands Etablissements*	23	*m*	*m*	ISCED 5-6	Education/ Services/ Life Sciences/ Physical Sciences/ Mathematics/ Humanities and Arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and construction/ Agriculture/ Computing/Health and Welfare/ Others	These institutions offering a wide variety of programmes include national superior engineering institutes, university institutes of technology, paramedic and social schools, and engineering schools. Paramedic and social schools are placed under the control of the Ministry of Health. Some engineering schools that are independent of universities, university institutes of technology and national polytechnical institutes, are placed under the control of the Ministry for National Education or other technical ministries. Some other engineering programmes are offered in school or attached to a university. Superior institutes of artistic studies (*e.g.* architecture and fine arts) are placed under the control of the Ministry of Culture and Communication.
	Post-*baccalauréat* training in *lycées*	454(including private institutions)	*m*	*m*	ISCED 5	Education/ Services/ Life Sciences/ Physical Sciences/ Mathematics/ Humanities and Arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and construction/ Agriculture/ Computing/Health and Welfare/ Others	*Lycées* offer post-*baccalauréat* training lasting 2 years. According to the law on decentralisation, regions are mainly responsible for the premises and building, and the State funds teachers' salaries and school expenses. Post-*baccalauréat* training includes preparatory classes for the *Grandes Ecoles* and superior technician sections. Preparatory classes for the *Grandes Ecoles* aim at preparing students to sit a competitive exam to enter to engineering schools, business and management schools, and *Ecole normale supérieure* . Superior technician sections lead to the award of a higher technician's diploma (*i.e. brevet de technicien supérieur*), which gives access to the labour market.
Private	*Ecoles* and *Grands Etablissements*	147	*m*	*m*	ISCED 5-6	Education/ Services/ Life Sciences/ Physical Sciences/ Mathematics/ Humanities and Arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and construction/ Agriculture/ Computing/Health and Welfare/ Others	These institutions offering a wide variety of programmes includes engineering schools, business and management schools, and superior institutes. Most business and management schools are private or depend on chambers of commerce and industry. Superior institutes offer professionally oriented programmes in a range of specialised disciplines (*e.g.* hotel and catering, design, and fashion). Most have a private status, but are placed under the administrative control of the ministry to which they are attached.
	Post-*baccalauréat* training in *lycées*	454(including public institutions)	*m*	*m*	*m*	Education/ Services/ Life Sciences/ Physical Sciences/ Mathematics/ Humanities and Arts/ Social Sciences, Business and Law/ Engineering, Manufacturing and construction/ Agriculture/ Computing/Health and Welfare/ Others	*Lycées* offer post-*baccalauréat* training lasting 2 years. According to the law on decentralisation, regions are mainly responsible for the premises and building, and the State funds teachers' salaries and school expenses. Post-*baccalauréat* training includes two types of institutions. Preparatory classes for the *Grandes Ecoles* aim at preparing students to sit a competitive exam to enter to engineering schools, business and management schools, and *Ecole normale supérieure* . Superior technician sections lead to the award of a higher technician's diploma (*i.e. brevet de technicien supérieur*), which gives access to the labour market. Governance: The programmes provided by these institutions, as well as the diplomas they award, are accredited by the State. The accreditation allows institutions to receive public funds and employed teachers working in the public sector. Students can also benefit from public scholarships in accredited institutions. In exchange, institutions allow the State's authorities to control them, and the nomination of the director and staff has to receive state's agreement.

Notes: *m* : Information not available
1. Year of reference, 2005-2006.

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* Eurydice (2005), Focus on the Structure of Higher Education in Europe 2004/2005, European Commission).

GREECE

		Number of Institutions	Size (share of the student population)[1]	Growth trends[2]	Level of programmes offered	Fields of study covered[3]	Other distinctive features
Public and state	Universities	23 [4]	408,872 (63%) (including Higher Schools)	-2.11% between 2004/05 and 2005/06	ISCED 5-6	Education/Humanities and Arts/ Social Sciences, Business and Law/ Mathematics and Statistics/ Life Sciences/ Physical Sciences/ Health and Welfare/ Agriculture/ Engineering, Manufacturing and construction/ Computing[4]	Aims and objectives: the general aim of universities is to provide students with high level theoretical knowledge, and to prepare them to the ever-changing cultural, scientific and technological demands of community life. The mission of the International University of Greece is to provide higher education to foreigners interested in studying in Greece. Governance: The University sector includes universities, the Higher School of Fine Arts, the Hellenic Open University (EAP) and the Higher Military Education Institutes. These institutions are, according to article 16 of the Greek Constitution and Greek legislation in general, self-administered legal entities. They are supervised and financed by the State. Internal regulations in each university determine their internal structure, the organisation and operation of the universities' administrative, financial and technical services, the determination of the teaching and research policies of the different departments, the planning, the procedures and requirements to employ staff, and the allocation of funds.
	Technological Institutes	16	244,776 (includes 650 students at the ISCED level 6) (37%) (provisional data from National Statistical Service of Greece)	6.93% between 2004/05 and 2005/06	ISCED 5-6	Humanities and Arts/ Social Sciences, Business and Law/ Mathematics and Statistics/ Life Sciences/ Physical Sciences/ Health and Welfare/ Agriculture/ Engineering, Manufacturing and construction/ Computing/Services[4]	Aims and objectives: the aim of the Technological sector is its participation in the overall development of scientific, applied and technological knowledge by educating students who will acquire the necessary skills to succeed in their professional life. Governance: The Technological sector of higher education includes Technological Education Institutes and the Higher School for Teachers of Technological Education. The Technological Education Institutes are governed by Public Law and are supervised by the Ministry of Education and Religious Affairs. They are self-administered legal entities. They are supervised and subsidised by the state. The internal regulations in each institution determine the internal structure, the organisation, the operation of the Institutes' administrative, financial and technical services as well as the procedures and requirements for employing staff. Emphasis of curricula: Studies at TEI have a practical focus. However, background theoretical courses are always included to enable students to adapt to the ever-changing conditions in the labour market and in society.
	Higher Schools	*m*	Approx. 6,860 (1.5%) (number included in university student population)	*m*	ISCED 5	Humanities and Arts/ Services[4]	Governance: Higher Schools education sector includes Higher Ecclesiastical Schools, Merchant Naval Academies, Higher Schools of Dance and Drama, Higher Schools of Tourist Professions, Higher Non-Commissioned Officers Schools and Higher Police Academies. The length of studies in these schools should not exceed three years. These Schools, with the exception of the Higher Ecclesiastical Schools which is supervised by the Ministry of Education, are under the supervision of their relevant ministries.

Notes : *m* : Information not available

1. Year of reference 2005/06. Ministry of Education and Religious Affairs, UOE data collection on education statistics.
2. Ministry of Education and Religious Affairs, UOE data collection on education statistics.
3. OECD (2004), Education at a Glance 2004, Table A4.1, Paris, OECD.
4. Includes the Hellenic Open University.

Source: References and information supplied by countries participating in the project.

ICELAND

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	5	86.50%	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, manufacturing and construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing	Aims and objectives: A university aims at educating students, pursuing research and helping society in general, by disseminating knowledge and providing society with the needed services. Research emphasis: Universities conduct basic as well as applied research activities. In 2003, HEIs carried out 26% of the research work. Programmes' emphasis: Only the University of Iceland offers undergraduate and postgraduate programmes as well as research activities in a wide area of disciplines. The others are more specialised and do not have as extensive research activities. There are seven HEIs that provide distance learning programmes and courses.
Private	Reykjavik University	1	8.50%	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, manufacturing and construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing	Aims and objectives: they mainly focus on teaching, and conduct few research programmes. Governance: Private institutions charge students tuition fees, unlike public institutions. All institutions operate on a non-profit basis. The private institutions have more flexibility in recruiting academic staff. Private-run institutions have representatives from the industrial sector on their board. Students are not represented on councils of private HEIs.
	Bifröst School of Business/Iceland Academy of the Arts	2	5%	*m*	ISCED 5A-5B	Social Sciences, Business and Law/ Humanities and Arts	Aims and objectives: they mainly focus on teaching, and conduct few research programmes. Governance: Private institution charge students tuition fees, unlike public institutions. All institutions operate on a non-profit basis. The private institutions have more flexibility in recruiting academic staff. Private-run institutions have representatives from the industrial sector on their board. Students are not represented on councils of private HEIs.

Notes: *m*: Information not available

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Education at a Glance 2004*, Table A4.1, Paris, OECD and Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005*, European Commission).

JAPAN

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	160	15.40%	*m*	ISCED 5-6	Humanities and Arts/ Social Sciences, Business and Law/ Sciences/ Engineering, manufacturing and construction/ Agriculture/ Health and Welfare/ Education/ Others	Aims and objectives: they aim at conducting teaching and research in specialised academic subjects as well as at providing broad knowledge. Contribution to the local community is a fundamental mission for public universities. Links with the labour market: an internship program between universities and the industrial sector has been created in 46.3% of universities to foster cooperation between these two actors. Cooperation with local industries has progressed in fields like research or internships. Research emphasis: 46.5% of the time of all faculty members at universities was spent on research. The research at universities is almost entirely financed by public funds. Approximately 90% of national universities were engaged in non-inter-academic co-operative research or commissioned research.
	Graduate Schools (Universities with graduate schools)	149	5%	*m*	ISCED 5-6	Humanities and Arts/ Social Sciences, Business and Law/ Sciences/ Agriculture/ Engineering, manufacturing and Construction/ Health and Welfare/ Education/ Others	*m*
	Junior colleges	31	0.40%	*m*	ISCED 5	Humanities and Arts/ Social Sciences, Business and Law/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Services/ Education/ Others	Aims and objectives: they aim at conducting teaching and research in depth in specialised academic subjects and at cultivating such abilities as are required in vocation or practical life.
	Colleges of technology	60	0.60%	*m*	ISCED 5-6	Engineering, manufacturing and construction/ Others	Aims and objectives: its aim is to teach specialised academic subjects in depth and to cultivate the abilities required for certain vocations. Governance: the establishment of a professional training college is permitted under the authority of local governments, and has been covered by local governments' policies from the beginning. Professional training colleges are apt to concentrate in populated major cities. Governance: they are established by law.
	Professional training colleges	207	0.80%	*m*	ISCED 5	Humanities and Arts/ Social Sciences, business and law/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Education	Governance: in order to establish public professional training colleges, certain establishment standards should be met and approval from the prefectural governor is required.
Private	Universities	556	52.60%	*m*	ISCED 5-6	Humanities and Arts/ Social Sciences, Business and Law/ Sciences/ Engineering, manufacturing and construction/ Agriculture/ Health and Welfare/ Education/ Others	Governance: local contribution is not a fundamental requirement for private universities. Governance: the curriculums that are provided at private tertiary institutions are decided by the entities, which seek permission from the MEXT to establish universities. The pillar of education for private institutions is the autonomy of each institution. Autonomy is respected in the management of the school.
	Graduate Schools (Universities with graduate schools)	409	2.40%	*m*	ISCED 5A-6	Humanities and Arts/ Social Sciences, Business and Law/ Sciences/ Agriculture/ Engineering, manufacturing and Construction/ Health and Welfare/ Education/ Others	Aims and objectives: the purpose of professional graduate schools is to teach and research scientific theory and applications, and cultivate the scholarship and superior skill needed for jobs requiring high levels of expertise. The new graduate school system was established in 2003 as a means of providing flexible and practical education matching the specific features of various professional fields. Governance: the curriculums that are provided at private tertiary institutions are decided by the entities, which seek permission from the MEXT to establish universities. The pillar of education for private institutions is the autonomy of each institution. Autonomy is respected in the management of the school.
	Junior colleges	384	5.30%	*m*	ISCED 5	Humanities and Arts/ Social Sciences, Business and Law/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Services/ Education/ Others	Governance: the curriculums that are provided at private tertiary institutions are decided by the entities, which seek permission from the MEXT to establish universities. The pillar of education for private institutions is the autonomy of each institution. Autonomy is respected in the management of the school.
	Colleges of technology	3	0.03%	*m*	ISCED 5-6	Engineering, manufacturing and construction	Governance: the curriculums that are provided at private tertiary institutions are decided by the entities, which seek permission from the MEXT to establish universities. The pillar of education for private institutions is the autonomy of each institution. Autonomy is respected in the management of the school.
	Professional training colleges	2766	18%	*m*	ISCED 5	Humanities and Arts/ Social Sciences, business and law/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Education/ Services	Governance: in order to establish private professional training colleges, certain establishment standards should be met and approval from the prefectural governor is required. Governance: the curriculums that are provided at private tertiary institutions are decided by the entities, which seek permission from the MEXT to establish universities. The pillar of education for private institutions is the autonomy of each institution. Autonomy is respected in the management of the school.

Notes: *m:* Information not available; MEXT: Ministry of Education, Culture, Sports, Science and Technology

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Education at a Glance 2004* , Table A4.1, Paris, OECD).

KOREA

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	University	26	*m*	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government decides the goals of the public tertiary education institutions, the distribution of resources and the establishment and expansion of institution. The institutions choose the contents of educational program, the curriculum planning, the priority for research, the employment of faculty and working conditions, and the degree condition.
	Open University	1	290,728	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: Avail opportunities for higher education to the public through various forms of media, further open learning, and contribute to lifelong learning Governance: the government decides the goals of the public tertiary education institutions, the distribution of resources and the establishment and expansion of institution. The institutions choose the contents of educational program, the curriculum planning, the priority for research, the employment of faculty and working conditions, and the degree condition.
	Education University	11	23,335	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and Objectives: Foster knowledgeable teachers for primary education. Governance: the government decides the goals of the public tertiary education institutions, the distribution of resources and the establishment and expansion of institution. The institutions choose the contents of educational program, the curriculum planning, the priority for research, the employment of faculty and working conditions, and the degree condition.
	Industrial University	8	*m*	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government decides the goals of the public tertiary education institutions, the distribution of resources and the establishment and expansion of institution. The institutions choose the contents of educational program, the curriculum planning, the priority for research, the employment of faculty and working conditions, and the degree condition.
	Junior College	15	*m*	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: Educate students about specialised knowledge and skills to foster talents able to fulfil specialized positions in society. Governance: the government decides the goals of the public tertiary education institutions, the distribution of resources and the establishment and expansion of institution. The institutions choose the contents of educational program, the curriculum planning, the priority for research, the employment of faculty and working conditions, and the degree condition.
Private	University	145	m	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Other Universities	5	1,153	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Industrial University	10	m	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Cyber University	17	39,450	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Corporate University	1	62	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Graduate School University	28	276,918	*m*	ISCED 5A-5B-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Junior College	143	*m*	No change	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.
	Technical university	1	196	*m*	ISCED 5	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Aims and objectives: Foster a workforce with specialized knowledge and applicable skills by providing the opportunity to continually learn and practice specialized vocational knowledge and theories for the workplace. Governance: the government structures of private institutions are diverse, and generally respond to their size and guidelines established by their patrons. The goals of the private institutions are partially defined by the private institutions, which also decide over the distribution of resources and the establishment and expansion of institution.

Notes: *m* : Information not available

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Education at a Glance 2004* , Table A4.1, Paris, OECD).

MEXICO

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Federal public institutions	4 (including UNAM)	12.10%	*m*	ISCED 5A-6	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Research emphasis: next to their teaching activities, those institutions develop a wide array of programs and research projects aimed at generating and applying knowledge (GAK), and at expanding and promoting culture.
	State public universities	46	31%	*m*	ISCED 5A-5B-6	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Governance: They are decentralized agencies of the government.
	Public technological institutes	211	12.80%	*m*	ISCED 5A-6	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Research emphasis: in addition to teaching activities, they develop programmes and projects aimed at GAK, and expand and promote culture.
	Public technological universities	60	2.50%	*m*	ISCED 5B	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Programmes' emphasis: they teach exclusively 2 year study programmes leading to certificate of university level technician. Their purpose is to ease the students' way into the labour market once they have concluded their studies; the academic programmes are based on 70% practical and 30% theoretical curriculum. Governance: these institutions are decentralized agencies of the state governments, which conduct teaching activities, carry out programmes and projects aimed at GAK, and expand and promote technological services. Students' profile: 9 out of ten students represent the first generation in their families to have access to higher education.
	Public polytechnic universities	18	0.15%	*m*	ISCED 5A	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Governance: they have been recently created. They are decentralised state government agencies. Programs' emphasis: the current study programmes have been based upon professional skills and on a learning-centred approach.
	Intercultural public universities	4	0.05%	*m*	ISCED 5A	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Governance: these universities are decentralised agencies of the state governments. They are located in regions with high densities of indigenous population, albeit open to students of all origins(20% of the enrolment is composed of mestizos). Programmes' emphasis: under a cross-cultural concept, these institutions offer innovative higher education options aimed mainly at satisfying the needs and intensifying the development potential of the regions they serve. Knowledge generation activities focus on indigenous language and cultures, as well as on sustainable regional development.
	Public research centres	27	0.10%	*m*	ISCED 5A-6	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	Aims and objectives: their aim is to generate and innovate application of knowledge in different areas. Governance: Coordination of these centres is under the responsibility of the National Council for Science and Technology.
	Other public institutions	94	4.90%	*m*	ISCED 5A-6	Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/Sciences/ Social Sciences, manufacturing and Construction/ Education/ Humanities and Arts	*m*
	Teacher education institutions	249	3.70%	No change	ISCED 5A-6	Education	Governance: they are de-concentrated agencies of the state governments.
Private	Teacher education institutions	184	2.10%	*m*	ISCED 5A-6	Education	*m*
	Private universities, institutes and centres	995	30.60%	*m*	ISCED 5A-5B-6	Health and Welfare/ Agriculture/ Sciences/ Social Sciences, Business and Law/ Education/ Humanities and Arts/ Engineering, Manufacturing and Construction	Programmes' emphasis: in most of these institutions, teaching is the primary activity. However, the most consolidated also carry out activities aimed at GAK, as well as to expanding and promoting culture.

Notes: *m:* Information not available; UNAM: Universidad Nacional Autónoma de México

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents.

NETHERLANDS

		Number of Institutions (2007)	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Publicly-subsidised[1]	Universities (regular, 14 institutions)[2], Universities of Theology (6) and the Transnational University	21	30%	*m*	ISCED 5A-6	Health and Welfare/ Agriculture/ Social Sciences, Business and Law/ Education/ Humanities and Arts/ Services/ Engineering, manufacturing and Construction/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Research emphasis: research activities are traditionally conducted in Universities. PhD students are hired by Universities. In recent years, some networks and partnerships between universities and Hogescholen were established. All researchers are trained by universities.
	Hogescholen (Hoger Beroeps Onderwijs) (Universities of Applied Science)	40	55%	*m*	ISCED 5A-5B	Education/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Health and Welfare/ Computing/ Agriculture/ Humanities and Arts	Programmes' emphasis: they mainly provide professional higher education. Hogescholen focus on bachelors' degrees. In the HBO sector, both the institutes and employers are concerned about the relations between the content of programs and the demands of the labour market. Hogescholen students spend about 1/4 of their time in practical training. A new initiative is in favour of introducing short courses leading to associate degrees in Hogescholen. Research emphasis: there is a new trend for Hogescholen to conduct practice-based research. To this purpose, they have appointed lectors, whose main purpose is to create "knowledge circles" with relevant organisations like companies and organisations in the field.
	Academic medical centres	8	4%	*m*	ISCED 5A-6	Health and Welfare	Programmes' emphasis: they have the task of providing a large number of doctors and specialists as well as renewing the system of higher education for health care.
Independent private	Universities	2	11% (including private Hogescholen)	*m*	ISCED 5A-6	Business/Management/Economics	*m*
	Hogescholen (Hoger Beroeps Onderwijs) (Universities of Applied Science)	62	11% (including private universities)	*m*	ISCED 5A	Theology/Business/Management/Health and Welfare/Social Sciences/Education/Computing/Agriculture/Languages/Communication	*m*

Notes: *m:* Information not available
1. Privately or publicly governed.
2. Includes the Open University.

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Education at a Glance 2004,* Table A4.1, Paris, OECD and Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005,* European Commission). Complemented by information supplied by the Netherlands' Ministry of Education, Culture and Science.

NEW ZEALAND

		Number of Institutions	Size (share of the student population)[1]	Growth trends[2]	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	8	46%	37% between 1996 and 2006[3]	ISCED 5A 5B-6	Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Agriculture/ Health and Welfare/ Education/ Social Sciences, Business and Law	Research emphasis: according to the Education Act 1989, universities have a major role as providers of research across a wide range of disciplines. They are responsible for about 63% of the country's output of research papers. In universities, the academic staff is expected to devote a much higher proportion of its time to research than at other tertiary education institutions.
	Institutes of technology and polytechnics (ITPs)	20	28%	13% between 1996 and 2006	ISCED 5B-6	Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Agriculture/ Health and Welfare/ Education/ Social Sciences, Business and Law/ Services	Aims and objectives: the institutes of technology and polytechnics (ITPs) focus on regional and local needs, with an emphasis on vocational programs. Research emphasis: The collective research activity and output of TEOs other than universities is very small. Research programmes primarily focus in the area of applied research.
	Colleges of education (CoEs)	2[4]	1%	-55% between 1996 and 2006[3]	ISCED 5A-5B	Social Sciences, Business and Law/ Education/ Humanities and Arts	Colleges of education are primarily (but not exclusively) focussed on education and on teacher training.
	Wānanga	3	9%	1200% between 1996 and 2006	ISCED 5A-5B-6	Physical Sciences/ Life Sciences/ Mathematics and Statistics/ Computing/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Health and Welfare/ Education/ Services/ Agriculture	Students' profile: Wānanga were created to provide more opportunities for Maoris to pursue their education at the tertiary level. More of the programmes at wānanga are also pitched at older students.
Private	Private training establishments (PTEs)	Approx. 900	15%	101% between 1996 and 2006 (including OTEPs)	ISCED 5A-5B-6[5]	Computing/ Engineering, Manufacturing and Construction/ Humanities and Arts/ Agriculture/ Health and Welfare/ Education/ Social Sciences, Business and Law/ Humanities and Arts/ Physical Sciences/ Life Sciences/ Mathematics and Statistics/ Services	Aims and objectives: Private training establishments (PTEs) complement public provision and generally focus on niches not addressed by the public sector. Research emphasis: The collective research activity and output of TEOs other than universities is very small. Research programmes primarily focus in the area of applied research.
	Industry training organisations (ITOs)	41	*m*[6]	149% between 1996 and 2006[7]	ISCED 5B	m	*m*
	Other tertiary education providers (OTEPs)	16	1%	*m*[8]	ISCED 5B	Agriculture/ Education/ Humanities and Arts/ Social Sciences, Business, and Law	*m*

Notes: *m*: Information not available; ITP: Institute of technology and polytechnic; CoE: College of education; PTE: Private training establishment; ITO: Industry training organisation; OTEP: Other tertiary education provider; TEO: Tertiary education organisation

1. Year of reference 2006. Size is measured on the basis of full-time equivalent students.
2. Size is measured on the basis of full-time equivalent students, except for industry training organisations.
3. Over that period, the universities absorbed two colleges of education and one polytechnic, while another polytechnic was redesignated as a university.
4. The two remaining colleges of education were absorbed into neighbouring universities from 1 January 2007.
5. In fields not covered by public institutions.
6. Industry trainees represent about 25 percent of all those participating in formal tertiary education on a head-count basis - but many are also enrolled at polytechnics or private training establishments. Nearly all industry trainees are studying on a part-time basis.
7. Growth figure is based on a snapshot of head-count data.
8. OTEP growth is absorbed into PTE growth data.

Source: References and information supplied by countries participating in the project.

NORWAY

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	7	40.0%	*m*	ISCED 5A-6	Humanities and Arts/ Sciences/ Social Sciences, Law/ Health and Welfare/ Education/Others	Governance: universities can without external accreditation offer study programs at all levels. Research emphasis: the universities are major actors in the Norwegian R%D system. There is close cooperation between universities and research centres and institutes in Norway. 50 % of academic staff time at universities are to be used on research activities. Governance: All higher education institutions are regulated by the 2005 Act on Higher Education
	Specialized university institutions	5	2.6%	*m*	ISCED 5A-6	Business / Architecture/Physical Education and Sport/ Music/Veterinary Science	Governance: since the 2002 amendment of the Universities and Colleges Act, specialised university institutions may apply to be accredited as universities. Research emphasis: concentrated in their respective fields of responsibility Governance: All higher education institutions are regulated by the 2005 Act on Higher Education
	University colleges	24	44.0%	*m*	ISCED 5A-5B- 6 (few)	Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Health and Welfare/ Computing/Teacher education	Governance: university colleges must apply for external accreditation for study programs at master's and PhD's levels. Since the 2002 amendment of the Universities and Colleges Act, university colleges may apply to be accredited as universities. Research emphasis: in the fields where they award doctoral degrees; in addition, all staff are expected to do some R&D work. Governance: All higher education institutions are regulated by the 2005 Act on Higher Education
	National academies of the arts	2	0.4%	*m*	ISCED 5A	Arts and crafts, design, fine arts, performing arts	Research emphasis: on artistic development work Governance: see university colleges
	Other colleges (military colleges, and the National Police Academy)	*m*	1.0%	*m*	ISCED 5A- 5B	Services	Governance: All Higher Education Institutions are regulated by the 2005 Act on Higher Education
Private	Private colleges	25	12.6%	*m*	ISCED 5A- 5B-6	Health and Welfare/ Teacher education/ Business/ Engineering and Computing/ Others	Governance: All Higher Education Institutions are regulated by the 2005 Act on Higher Education
	Norwegian Lutheran School of Theology	1	0.4%	*m*	*ISCED 5A-6*	Humanities and Arts	Research emphasis: the school conducts research in theology-related fields.

Notes: *m:* Information not available

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* OECD (2004), *Education at a Glance 2004* , Table A4.1, Paris, OECD and Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005* , European Commission).

POLAND

			Number of Institutions	Size (share of the student population)[2]	Growth trends[3] (between 2002 and 2006)	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	University-type higher education institutions (HEIs)	Universities	17 [1]	530485 (27,3%)	4.10%	ISCED 5A-6	Humanities/ Social Sciences, Business and Law/ Sciences/ Education	Governance: A public university-type higher education institution shall be established and liquidated, change its name and merge with another public higher education institution by an Act of Parliament. A university-type institution is a Higher Education Institution in which at least one organisational unit is authorised to confer the doctoral degree. The new Law of 2005 distinguishes universities, technical universities, academies and other types of TEIs based on the number of academic areas in which TEI units are authorised to award the doctoral degree. The collective bodies of a public higher education institution shall be the senate and boards of basic organisational units. The single-person authorities of a higher education institution shall be the rector and heads of basic organisational units. Research's emphasis: research efforts are mainly conducted by Universities and university-type institutions. Funding: Public HEIs receive the government subsidy for teaching activities, financial support of students, research and specific purposes.
		Universities of technology	18 [1]	309799 (15,9%)	-7.30%	ISCED 5A-6	Social Sciences, Business and Law/ Science/ Engineering, Manufacturing and Construction/Services	
		Agricultural HEIs	8 [1]	90302 (4,6%)	-6.4%	ISCED 5A-6	Agriculture/Science	
		HEIs of economics	5 [1]	71773 (3,6%)	-5.50%	ISCED 5A-6	Social Sciences, Business and Law	
		Medical academies	9 [1a]	53060 (2,7%)	29.00%	ISCED 5A-6	Health and Welfare	
		HEIs for art studies	18 [1b]	14080 (0,7%)	8.40%	ISCED 5A-6	Humanities and Arts	
		Academies of theology	1 [1]	855 (0,04%)	-11.50%	ISCED 5A-6	Humanities	
		Academies of physical education	6 [1]	29048 (1,4%)	18.30%	ISCED 5A-6	Physical Education, Sport, Health, Services	
		Teacher education schools	5 [1]	77185 (3,9%)	-18.50%	ISCED 5A-6	Education/Social Sciences	
		Military HEIs	5 [2]	11665 (o,6%)	17%	ISCED 5A-6	Services/Engineering, Manufacturing and Construction/Education	
		Government service HEIs	*2* [2]	2081 (0,1%)	11.30%	ISCED 5A-6	Services	
		HEIs for maritime studies	2 [2]	10500 (0,5%)	-15.30%	ISCED 5A-6	Services	
	Non-university HEIs	Higher vocational schools	*35* [1]	100299 (5,1%)	37.50%	ISCED 5A	Humanities and Arts/ Social Sciences, Business and Law/ Science/ Engineering, Manufacturing and Construction/ Health and Welfare/ Education/ Services/ Agriculture	Governance: A non-university HEI can provide first- and second-cycle programmes, but none of its organisational units is authorised to award the doctoral degree. The state higher vocational schools are established and abolished by the Council of Ministers through a regulation upon a request by the relevant minister of higher education or a regional self-government upon the minister's approval. The request has to be evaluated by the State Accreditation Commission.
Non-public	University-type HEIs and non-university HEIs		321 [1]	640313 (32,9%)	20.60%	University-type HEIs: ISCED 5A-6 Non-university HEIs: ISCED 5A	University-type HEIs: Social Sciences, Business and Law/Science/Services/Education//Humanities and Arts/Health and Welfare/Physical Education Non-university HEIs: Social Sciences/ Business and Law, Services/ Humanities and Arts/Education/Engineering and Construction/Agriculture/Health and Welfare	Governance: The establishment of a non-public higher education institution and the authorisation to provide degree programmes in a given field and at a given level of study for that institution shall require a permit from the minister responsible for higher education. According to the 2005 Law on Higher Education the collective bodies of a non-public higher education institution shall be specified in its statutes. The statutes of a non-public higher education institution may provide for another single-person authority in addition to the rector. To become the rector of a non-public TEI, a person should hold at least the doctoral degree. Statutes of non-public HEIs require ministerial approval. Funding: Non-public TEIs receive funding from private sources. They also have access to some public funding. They are allowed to obtain subsidies from the research section of the State-budget for their research activity and, as from 2001, for financial support for students.

Notes: *m:* Information not available; HEI: Higher education institution; TEI: Tertiary education institution
1. Ministry of Science and Higher Education: http://www.nauka.gov.pl/mn/index.jsp?place=Lead07&news_cat_id=948&news_id=3610&layout=2&page=text
1a. Ministry of Health: http://www.mz.gov.pl/wwwfiles/ma_struktura/docs/wykaz_kierunkow_w_uczelniach_medycznych.xls
1b Ministry of Culture and National Heritage: http://www.mkidn.gov.pl.
2. Publication of Central Statistical Office "Higher Education Institutions and their Finances in 2006".
3. Publication of the Ministry of National Education and Sport "Higher Education 2002" and Central Statistical Office "Higher Education Institutions and their Finances in 2006".

Source: References and information supplied by countries participating in the project.

PORTUGAL

		Number of Institutions	Size (share of the student population) (2006-07)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public	Universities and non-integrated university establishment	19	46%	15% between 1997 and 2007	ISCED 5A-5B-6	Education/ Humanites and Arts/ Social Sciences, Business, and Law/ Science/ Engineering, Manufacturing and Construction/Agriculture and Veterinary/ Health and Welfare/ Other	Research emphasis: Most research activities are carried out by public Universities. Governance: The new Legal Regime of Higher Education Institutions, approved by Law in September 2007, establishes the organizational principles of the higher education system, the autonomy and accountability of institutions, setting up governing Boards with external participation, diversity of organization and legal status of public institutions (namely as public foundations), establishment of consortia, recognition of research centres as part of University management framework. This bill applies to all higher education institutions and to the system of higher education as a whole. Thus, public and private institutions, universities and polytechnics are all brought together under the same law.
	Polytechnics and non-integrated polytechnic establishment	25	29%	62% between 1997 and 2007	ISCED 5A-5B (from 2007-2008 these institutions offer Bologna 2nd cycle programmes)	Education/ Arts/ Business and administration/ Engineering, Manufacturing and Construction/Agriculture and Veterinary/ Health and Welfare/ Services/ Other	Research emphasis: they are supposed to develop applied research activities. Programme emphasis: polytechnic study courses provide both vocational and professional activities to their students. Governance: Polytechnics are regulated by the New Legal Regime of Higher Education Institutions. This bill also created the title of 'specialist' to be conferred by polytechnics upon professionals with proven experience and seniority, whose participation in the teaching body is encouraged. The new law also provided the framework for the institutional consolidation and integration of polytechnics, which will cease to operate as federations of separate autonomous schools.
Private	Universities and non-integrated university establishment	47	17%	- 37% between 1997 and 2007	ISCED 5A-5B-6	Education/ Humanites and Arts/ Social Sciences, Business, and Law/ Science/ Engineering, Manufacturing and Construction/ Health and Welfare/ Other	Governance: The new Legal Regime of Higher Education Institutions regulates private higher education institutions. This law also reinforces the guarantee concerning assets and financial matters, and increased transparency as regards the identity of the owners of private higher education institutions.
	Polytechnics and non-integrated polytechnic establishment	58	8%	22% between 1997 and 2007	ISCED 5A-5B (from 2007-2008 these institutions offer Bologna 2nd cycle programmes)	Education/ Arts/ Business and administration/ Engineering, Manufacturing and Construction/ Health and Welfare/ Services/ Other	Programme's emphasis: most of them are specialised. Most of them do not have post-graduate degrees.

Source: Derived from the Background Reports prepared by countries participating in the project and other country-specific documents (*e.g.* Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005* , European Commission)

RUSSIAN FEDERATION[1]

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	332 [2]	4,294,800 (61 %) [2]	96% between 1998 and 2005[3]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	TEIs, which are offering higher and postgraduate education programmes (ISCED 5A-6) for a wide range of fields of study (specialties); implementing training, re-training and (or) qualification enhancement programmes for highly qualified employees, research and academic employees; conducting basic and applied research in a wide range of sciences; considered as a leading scientific and methodological centre in different fields of its specialization.[4] In 2006 under the framework of Priority national project "Education" two large-scale universities (Siberian federal university and South federal university) have been created on the basis of several TEIs existing in Siberian and South federal districts. This process is initiated to promote state-private partnership in the field of tertiary education, to enhance the role of TEIs in regional development and to consolidate financial and human resources of several regional TEIs in order to provide high-quality education[5].
	Academies	172 [2]	934,000 (13%) [2]	43% between 1998 and 2005[3]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	TEIs, which are offering higher and postgraduate education programmes (ISCED 5A-6); implementing training, re-training and (or) qualification enhancement programmes for highly qualified employees for a specific field of research or teaching activity; conducting basic and applied research , predominantly in one of the fields of science or culture; considered as a leading scientific and methodological centre in the field of its specialization [4]. An Academy has a narrower range of specialities than a University. It usually specializes in one particular field .
	Institutes	151 [2]	756,500 (11%) [2]	58% between 1998 and 2005[3]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	TEIs which are offering higher education programmes (ISCED 5A) and usually postgraduate education programmes (ISCED 6); implementing training, re-training and (or) qualification enhancement programmes for employees for a specific field of professional activity; conducting basic and applied research [4]. Institutes can also be established as departments of existing Universities or Academies.
Private	Universities	14 [6]	189,600 [7]	282% between 2002 and 2007[8]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	Non-state educational institutes can be established institutionally and legally in the forms stipulated by the Russian Federation Laws for non-profit organizations. Private institutions have to undergo the process of assessment and accreditation only if they want to issue state-recognized diplomas. 280 out of 431 private institutions hold state accreditation and licences. Students have to pay fees during the entire duration of their studies.
	Academies	23 [6]	365,700 [7]	792% between 2002 and 2007 [8]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	The type of private TEIs (university, academy, institute) is determined during the accreditation process on the basis of the same criteria parameters as the type of public TEIs: 1. The spectrum of main educational programmes offered and field of study covered ; 2. The offer of postgraduate and additional education programmes; 3. R&D activity and its efficiency; 4. Methodical and innovation activity; 5. Qualification of academic staff and the existence of training, re-training and qualification enhancement programmes [4].
	Institutes	637 [6]	778,400 [7]	74% between 2002 and 2007 [8]	ISCED 5A-6	Education/ Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and statistics/ Computing/ Other	*m*

Notes: *m:* Information not available; TEI: Tertiary education institution

1. Definition of higher education in the Russian educational framework only covers ISCED 5A (*i.e.* it does not include ISCED level 5B and 6).
2. Year of reference 2005. Federal State Statistics Service-Rosstat (2006), *Education in the Russian Federation 2006* , Statistical annual, Moscow, State University - Higher school of economics.
3. Federal State Statistics Service-Rosstat (2006), *Education in the Russian Federation 2006* , Statistical annual, Moscow, State University - Higher school of economics.
4. Law of the Russian Federation "On Higher and Postgraduate Professional Education" of August 22, 1996, No. 125-FZ; Decree of the RF Ministry of Education "On approval of the list of index of state accreditation and criteria parameters to determine the type of higher educational institution» of 29 June, 2000, № 1965, from www.nica.ru
5. Priority national project "Education", from www.rost.ru
6. Year of reference 2007. National Accreditation Agency of Russia, Central State Accreditation Database, from www.nica.ru. Data on private institutions may differ depending on the source.
7. Year of reference 2007. National Accreditation Agency of Russia, Central State Accreditation Database, from www.nica.ru. Size is measured on the basis of full-time equivalent students. The Federal State Statistics Service (Rosstat) indicates that 15% of students are enrolled in private institutions with no distinction of the type of private TEI. Data on private TEIs may differ depending on the source.
8. Derived from data provided by the National Accreditation Agency of Russia (www.nica.ru) from the Central State Accreditation Database. Data on private TEIs may differ depending on the source.

Source: References and information supplied by countries participating in the project.

SPAIN

		Number of Institutions[1]	Size (share of the student population)[1]	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	50	74.20%	-11.2% between 1999/00 and 2006/07	ISCED 5-6	Education/ Humanities and Arts/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Computing/ Life Sciences/ Physical Sciences/ Mathematics and Statistics	Aims and objectives: their activity focuses on scientific and technical research or artistic creation. Governance: University education is offered in University Faculties, Higher Technical Education Centres and university centres for first-cycle studies. Public universities are created through an Act from the Legislative Assembly of the Autonomous Community, where the university is to be established, or through a Parliamentary Act in accordance with the Government Council of the corresponding Autonomous Community. Universities may have Research Institutes. Universities have a large autonomy as far as educational and training aspects are concerned. They have academic freedom, and autonomy to define any curricula leading to a degree.
	Higher Artistic Education Schools	833	1.50%	47.9% between 1999/00 and 2006/07	ISCED 5	Humanities and Arts	Governance: All establishments providing Art education must comply with a set of requirements concerning physical facilities and conditions, the potential enrolment of students and the number of specialities taught.
	Advanced Specific Vocational Training Schools	4905	10.30%	53.5% between 1999/00 and 2006/07	ISCED 5B	Education/ Humanities and Arts/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Computing	Governance: Advanced and Intermediate Vocational Training can be offered in Secondary Education, in Bachillerato establishments or centres exclusively devoted to the provision of this type of Education. Institutes of Advanced Specific Vocational Training are also established in some autonomous communities.
Private	Universities	23 [2]	10.90%	3.2% between 1999/00 and 2006/07	ISCED 5-6	Education/ Humanities and Arts/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Computing/ Life Sciences/ Physical Sciences/ Mathematics and Statistics	Governance: Private universities are composed of secular universities and universities of the Catholic Church. Universities may also have Research University Institutes. They focus on research or artistic creation. They may provide Postgraduate courses, and award Doctorates. Private universities obey to rules enacted by the State, the Autonomous Communities, by the law of their recognition and by their own rules of organisation and running, as well as by the rules corresponding to the type of legal entity taken. They have the liberty to establish their own organisation and running rules, like public universities. Students have to pay all the expenses of their studies. Enrolment and education fees are established by each university.
	Higher Artistic Education Schools	357	0.20%	119.8% between 1999/00 and 2006/07	ISCED 5	Humanities and Arts	Governance: Private establishments for Art studies may provide this type of education and award the corresponding official degrees, under the name of Authorised Establishments. They must comply with a set of requirements concerning physical facilities and conditions, concerning the potential enrolment of students and the number of specialities taught.
	Advanced Specific Vocational Training Schools	751	2.90%	36.6% between 1999/00 and 2006/07	ISCED 5B	Education/ Humanities and Arts/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and Construction/ Agriculture/ Health and Welfare/ Computing	Governance: Advanced and Intermediate Vocational Training can be offered in Secondary Education establishments or centres exclusively devoted to the provision of this type of Education. Private establishments may provide this type of education and award the corresponding official degrees, under the name of Authorised Establishments. They must comply with a set of requirements concerning physical facilities and conditions, concerning the potential enrolment of students and the number of specialities taught.

Notes: *m*: Information not available

1. Year of reference, academic year 2006/07. For universities, information derived from the 'datos y cifras del sistema universitario'.
2. Seven universities are owned by the Catholic Church.

Source: References and information supplied by countries participating in the project.

SWEDEN

		Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Public and state	Universities	14	66%	*m*	ISCED 5A-5B-6	Agriculture/ Health and Welfare/ Social Sciences, Business and Law/ Engineering, Manufacturing and Construction/ Education/ Humanities and Arts/ Others	Research emphasis: In 2003, 50% of the time at the oldest universities was devoted to it, whereas 30% of activities at new universities focused on research. Governance: Swedish State Higher Education Institutions are government agencies. There is a special regulatory framework for them embedded in the Higher Education Act and the Higher Education Ordinance. They have to submit reports every four years, as well as annual reports, in order to safeguard transparency and to balance autonomy. They also have to conduct internal audit. In its education directives, the government lays down specific objectives and required results for each individual institution.
	University colleges	21	28%	*m*	ISCED 5A (except master's degrees with a major subject) ISCED 5B- ISCED 6 (in specific fields)	Humanities and Arts (Fine arts and Performing arts)	Research emphasis: Some university colleges conduct research activities in specific fields. Governance: Swedish State Higher Education Institutions are government agencies. There is a special regulatory framework for them embedded in the Higher Education Act and the Higher Education Ordinance. They have to submit reports every four years, as well as annual reports, in order to safeguard transparency and to balance autonomy. They also have to conduct internal audit. In its education directives, the government lays down specific objectives and required results for each individual institution.
Private	Universities	3	5%	*m*	ISCED 5A- 5B-6	Agriculture/ Health and Welfare/ Social Sciences, Business and Law/ Engineering, Manufacturing and Construction/ Education/ Humanities and Arts/ Others	Research emphasis: Some private universities conduct fundamental research activities in specific fields. Governance: There is a separate Act and Ordinance for the private institutions. They have a large autonomy, but they have to follow the principles in the first chapter of the Higher Education Act. They also have to comply with the quality requirements in order to retain their entitlement to award recognised higher education degrees and to receive state funding for their programmes. These institutions are governed through contracts with the Government which cover a specific period of time. The contracts state that fees for individual students are not allowed. In addition, the contracts may set up targets for the award of certain specific degrees and contain certain goals.
	Small private institutions	21	1%	*m*	ISCED 5A(few)- ISCED 5B	Humanities and Arts (Religion and Theology)/Psychotherapy	Governance: There is a separate Act and Ordinance for the private institutions. They have a large autonomy, but they have to follow the principles in the first chapter of the Higher Education Act. They also have to comply with the quality requirements in order to retain their entitlement to award recognised higher education degrees and to receive state funding for their programmes. These institutions are governed through contracts with the Government which cover a specific period of time. The contracts state that fees for individual students are not allowed. In addition, the contracts may set up targets for the award of certain specific degrees and contain certain goals.

Notes: *m* : Information not available

Source: Information supplied by countries participating in the project and derived from the Background Reports.

SWITZERLAND

		Number of Institutions	Size (share of the student population)[1]	Growth trends[2]	Level of programmes offered	Fields of study covered[3]	Other distinctive features
Public Higher Education Institutions	Federal Institutes of Technology	2	19,271 (9.2%)	14.4% between 2000 and 2006	ISCED 5A-6	Engineering, manufacturing and Construction/ Agriculture/ Physical Sciences/ Mathematics and Statistics/ Computing/ Health and Welfare/ Life Sciences/ Social Sciences, Business and Law/ Services/ Humanities and Arts/ Others[3]	Aims and objectives: they are open to research and play an active role in the country's economic and social life by acting as an intermediary in transferring knowledge and technologies. Programmes' emphasis: the Federal Institutes of Technology provides courses on the level of Bachelor (3 years) and Master (1.5-2 years) degrees and Ph. D. Governance: the authority responsible for the institutions of the domain of the Federal Institutes of Technology is the confederation.
	Universities	10	95,690 (45.8 %)	19.9% between 2001 and 2006	ISCED 5A-6	Humanities and Arts/ Social Sciences, Business and Law/ Services/ Engineering, manufacturing and Construction/ Agriculture/ Health and Welfare/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing/ Others[3]	Research's emphasis: they conduct fundamental research. Programmes' emphasis: the universities offer Bachelor's (3 years), Master's (1.5-2 years) and Ph. D. degree courses. Governance: powers in the realm of higher education institutions are shared between the cantons and the confederation. Under the Constitution, the confederation plays a dual role in the administration of the higher education institutions: first, it subsidies cantonal universities; and second, it is responsible for the institutions of the domain of federal institutes of technology.
	Universities of Applied Sciences	7	40,172 (19.2%)	83.1% between 2000 and 2006	ISCED 5A	Engineering and IT/ Architecture, Building Engineering and Planning/ Chemistry and Life Sciences/ Agriculture and Forestry/ Business, Management and Services/ Design/ Health/ Social Work/ Music, Theatre and other arts/ Applied Psychology/ Applied Linguistics [4]	Aims and objectives: they are open to research and play an active role in the country's economic and social life by acting as an intermediary in transferring knowledge and technologies. Programmes' emphasis: the universities of applied sciences offer Bachelor's (3 years) und Master's (1.5-2 years) degree courses. The scientific instruction they offer is closely tied with a corresponding profession and field of activity, enabling students to make a seamless transition to working life. Governance: powers in the realm of higher education institutions are shared between the cantons and the confederation. Under the Constitution, the confederation plays a dual role in the administration of the higher education institutions: first, it subsidies cantonal universities of applied sciences; and second, it is responsible for the institutions of the domain of federal institutes of technology.
	Universities of teachers Education	13	10,959 (5.3%)	881% between 2001 and 2006[5]	ISCED 5A	Teacher Training	Aims and objectives: initial training of teachers for the pre-school, primary, lower secondary and partly upper secondary level (Matura schools); applied research and development; services (counselling and other services) Programmes' emphasis: they offer courses of three years for teachers at pre-school and primary level (Bachelor degree) and of five years for teachers at lower secondary level (Master degree). The courses consist of academic training and of practical training. Training for teachers at upper secondary level (Matura schools) represents a supplement to the Master degree the students acquire in their subjects of specialisation at a university or university of applied sciences. Governance: the universities of teacher education are teaching institutes that are regulated and financed either by the cantons or inter-cantonally. For students from outside the respective cantons the fees are paid via the university agreements.
AVTS	Higher VET study programmes and courses	Approx. 150	42,383 (20.3%) (including all AVTSs)	3.2% between 2000 and 2006	ISCED 5B	Engineering, Manufacturing and Construction/Hotel Management and Tourism/ Social Sciences, Business and Law/ Services/ Computing/ Agriculture and Forestry/ Health and Welfare	A good half of all tertiary level graduates in Switzerland have undertaken tertiary-type B programmes (ISCED 5B). Higher vocational education and training follows on directly from basic VET. Higher VET courses and study programmes lead to federal diplomas. To enter higher VET, students must have a secondary level II certificate (i.e. successful completion of secondary-level schooling) as well as practical professional experience and/or an other tertiary education. Higher VET programmes and courses are steered by professional associations and therefore lead to labour market-oriented qualifications. The costs of higher VET study programmes are largely incurred by the students themselves and their employers. Nevertheless, such education investment offers outstanding returns for students and the state alike.
Private	Universities of Applied Sciences	1	486 (0.2%)	*m*	ISCED 5A	Business and Law/ Services/ Computing	Programmes' emphasis: the university of applied sciences offer Bachelor's (3 years) und Master's (1.5-2 years) degree courses in the fields of study covered. The scientific instruction they offer is closely tied with a corresponding profession and field of activity, enabling students to make a seamless transition to working life.

Notes: *m* : Information not available; ADT: Advanced Vocational Training School; VET: Vocational education training
1. Year of reference 2006. Federal Statistical Office.
2. Federal Statistical Office, 2006
3. OECD (2004), *Handbook for Internationally Comparative Education Statistics 2004: Concepts, Standards, Definitions and Classifications* , OECD, Paris.
4. Decree of Universities of Applied Sciences
5. Universities of teachers education were only established in 2001

Source: References and information supplied by countries participating in the project.

UNITED KINGDOM

	Number of Institutions	Size (share of the student population)	Growth trends	Level of programmes offered	Fields of study covered	Other distinctive features
Universities and Higher Education colleges	116 universities 54 Higher Education colleges	92%[1]	29.4% between 1995/96 and 2005/06	ISCED 5A-5B- 6[2]	Health and Welfare/ Agriculture/ Education/ Humanities and Arts/ Social Sciences, Business, and Law/ Services/ Engineering, Manufacturing and Construction/ Life Sciences/ Physical Sciences/ Mathematics and Statistics/ Computing	Autonomy: All institutions have a high degree of autonomy over for example, institutional mission, appointments of staff, admission of students and curriculum offered. Mission: TEIs carry out the same core activities but to differing degrees. For example they may be research-intensive, or teaching-intensive. Research emphasis: Universities conduct fundamental as well as applied research activities. Higher Education Colleges may pursue applied research and consultancy.[3] Programmes' emphasis: One University, the Open University, is specialised in providing distance courses. Former polytechnics have retained a vocational emphasis in their academic programmes.[3] Governance: in 2005, the criteria have been changed to allow universities without research degrees awarding powers (except in Scotland and Ireland).[3] Degrees and other qualifications offered by HE Colleges have to be validated by external bodies such as university or national accrediting body in most cases. Some of them have the power to award their own degrees and qualifications. These degree awarding powers are normally restricted to first degrees and taught (not research) master's degrees.[4]
Further education colleges	376 [5]	8%[3]	*m*	ISCED 3-4-5A-5B[4]	Social Sciences, Business, and Law/ Humanities and Arts/ Computing/ Education/ Engineering, Manufacturing and Construction, services [6]	FE colleges have a high degree of autonomy over their missions, appointment of staff, the admission of students and for programmes at level 5B in the curriculum offered. Links with the labour market: Further Education colleges offer a range of programmes some of which are short-cycle programmes, which enables them to have more flexibility and to respond better to labour market needs in the context of lifelong learning.[6] Students' profile: FE colleges draw students from diverse backgrounds. Students are more likely to be over 25, and to come from areas with low participation in HE than students in Universities. 52% of them study part-time. They are also more likely to study foundation degrees, HNCs or HNDs.[6]
Non publicly-funded colleges	*m*	*m*	*m*	m	Mainly Health and Welfare/ Social Sciences, Business and Law/ Humanities and Arts(Theology)[3]	*m*

Notes: *m* : Information not available
1. Higher Education Statistics Agency
2. Eurydice (2005), *Focus on the Structure of Higher Education in Europe 2004/2005* , European Commission.
3. United Kingdom National Background Report
4. Structures of Education, Vocational Training and Adult Education Systems in Europe. EURYDICE/CEDEFOP/ETF 2003
5. Statutory or designated colleges under the Further and Higher Education Act 1992
6. Higher Education Funding Council for England (HEFCE)

Source: References and information supplied by countries participating in the project.

Appendix 3 – Improving the Knowledge Base

A3.1 Major gaps in the information base

In the country-specific background reports and detailed analyses of external teams, the Review has identified several areas where data or research gaps impair policy diagnosis and informed policy making. These information gaps can be grouped along the broad areas of tertiary education supply and demand, access and participation, human and financial resources, and completion and outcomes. In some cases, it would be sufficient to address these gaps at the system level while information at institutional level would be desirable in other instances.

A3.1.1 Tertiary education supply and demand

The first area where better information could help policy makers make informed diagnosis and decisions on the allocation of resources in tertiary education relates to the supply of and the demand for tertiary education, and possible mismatches between them. Indeed, identifying such mismatches is the first step to steer the system to better match supply and demand and thereby grasp the full benefits of public investment in tertiary education. In this respect, while the supply side of tertiary education provision is generally well-informed, especially in countries where tertiary education is supplied by public tertiary education institutions (TEIs), the demand for tertiary education and its underlying drivers are often less well known.

With respect to the supply of tertiary education, the Review has identified information gaps in relation to the coverage of non-traditional modes of tertiary education delivery. Data collections and analyses often devote inadequate attention to the provision of lifelong learning opportunities and flexible study options despite the relevance of these non-traditional modes of delivery from the perspective of the labour market with a view to upgrade workers' skills or address specific skill shortages.

In addition, some countries are currently unable to collect comprehensive data on all TEIs and thus cannot devise a full picture of the domestic supply of tertiary education. This gap usually results from the difficulty in gathering information from private providers.

Better data and analysis are equally necessary on the demand side. Background reports and external reviews of countries participating in the Review have widely recognised the insufficiency of data and analysis with respect to the labour market demand for tertiary education, a shortcoming that impairs student adaptation to labour market signals, the ability of TEIs to learn about and respond to labour markets and the capacity of public officials to adapt resource allocation to labour market needs in terms of fields of study, programmes and their regional distribution.

At the system level, information would be desirable on general labour market conditions – *e.g.* labour force participation, unemployment and vacancy rates as well as working hours – to identify skill shortages and monitor trends in demand for tertiary-educated workers. In addition, research would also be needed to assess whether graduate over-supply is an issue, to estimate the frequency with which students take up the 'wrong subjects', and gauge whether graduate over-education or mismatch is of concern. Providing informed responses to these questions would assist policy makers in steering the system in ways that enhance its effectiveness.

Such monitoring would ideally need to be carried out at the sectoral level. For instance, the demand for human resources in research and innovation is evolving in both the public and private sectors of many OECD countries, and an important policy challenge is to improve information on supply and demand mismatches in human resources in science and technology, so that TEIs can respond flexibly and rapidly. There would also be a need for some analysis of labour market demand at regional level, to help TEIs better respond to the needs of their communities.

In addition, up-to-date information on wages and employment of recent graduates by field of study and, ideally, at the institutional level would also assist prospective students form accurate expectations about the returns of tertiary programmes in various fields and TEIs. Research might also be carried out to examine the wage and employment expectations and the actual labour market outcomes of tertiary students and assess whether changes in expectations have an impact on prospective students' enrolment decisions. The large-scale analysis that has recently been carried out in several European countries is an interesting step in this direction (Brunello *et al.*, 2001).

Another aspect of the demand for tertiary education that would require closer scrutiny in terms of empirical research and analysis relates to the factors driving international students' enrolment decisions. Indeed, the demand for tertiary education emanating from international students has been growing in the majority of countries taking part in the Review. Yet, surprisingly little is known on the factors and levers underlying this component of tertiary education demand. With the projected decrease in student populations in many OECD countries, international students are likely to become more and more important to the survival of TEIs and/or programmes, and research on the factors underlying their destinations is becoming increasingly relevant.

Lastly, research would also be desirable on the factors underlying enrolment decisions by disadvantaged students if countries are to tackle equity issues seriously. In a great number of participating countries indeed, there is a general lack of knowledge about the extent to which equity in tertiary education is a problem due to the lack of critical data such as the socio-economic or ethnic background of students in tertiary education. In these countries, equity issues are often largely unidentified because data by ethnicity, income, or parental education are not compiled on a systematic basis.

A3.1.2 Access and participation in tertiary education

Information and research are also needed to identify equity issues in terms of access to tertiary education by disadvantaged students, their choice of majors and the conditions of their participation in tertiary education relative to more privileged groups of students. Otherwise, this information gap hinders the development and monitoring of inclusive policies.

A coherent and systematic approach to equity would in the first instance assess which groups are at a disadvantage when it comes to access and participation in tertiary education, *i.e.* whether equity issues are related to ethnic background, socio-economic factors, gender, disability *etc.* A secondary question relates to identifying where the equity problems arise, *i.e.* whether they result from inequity of opportunities at the school level, from a lack of knowledge about the benefits of tertiary education within specific groups, are linked to admissions issues or insufficient student support during studies, or result from financial constraints faced by families. Answering these questions would require the systematic collection of data such as the socioeconomic, ethnic or disability background of the tertiary student population, and more effective student tracking and cohort analyses to examine their progress over time. In addition, targeted research would need to gauge the impact of these background variables on enrolment decisions, the social and economic conditions of student life, the recourse to student loans to finance tertiary studies, completion rates *etc.* This would inform the development of appropriate policies to reduce inequalities in tertiary education.

Another area where more information and research would be sought for relates to non-traditional patterns of participation and attendance, *i.e.* whether there are any the differences between full-time and part-time students, campus-based or distant students, as well as between those who pay for their studies and those who are entirely supported by the state. These questions are gaining in importance as more flexible offers are developing throughout the OECD, but little is known on their effectiveness relative to more traditional modes of full-time campus-based participation. In order to address these questions, a more elaborate collection of data would be required in some countries.

A3.1.3 Human and financial resources invested in tertiary education

The Review has also identified some data and research gaps with respect to the resources invested in tertiary education.

In terms of human resources, some countries lack basic data at the system level allowing them to picture the characteristics of the academic staff working in TEIs. Yet, planning the replacement of retiring academics, organising programmes of training and professional development or improving gender balance in academia require such basic information as the distribution of academic staff by age, gender and qualifications. In addition, little is known on the proportion of international academics at the institutional level, despite the fact that this ratio would provide insight into the scope for internationalisation at home in different TEIs.

Another aspect of internationalisation which is little documented relates to the international mobility of academic staff. Stronger data instruments need to be developed in this area in the majority of countries taking part in the Review, especially to record short-term international mobility. Research would also be needed to assess the impact of international mobility on academics' career tracks and promotions.

In terms of financial resources, detailed data are usually available – at least for publicly-funded TEIs –but the Review has nevertheless identified some data gaps in some areas such as institutional revenues off-budget. Another area of tertiary education finance where data gaps ought to be addressed relates to the financial implications of incoming international student mobility, *i.e.* the costs or revenues generated at the institutional and system level depending on the tuition fee structure applicable to international students. Indeed, while it may be rational for the public sector of certain host countries to subsidise

the education of international students in acknowledgement of the externalities they yield, the costs ought to be transparent for the purpose of good public policy.

Research would also be needed to assess the impact of various funding approaches on the behaviour of TEIs, or students in case tuition fees are introduced. Indeed, the empirical evidence on the impact of funding approaches on institutional strategic behaviour is scarce, and research on students' responses to the introduction of fees in other countries might be useful to policy makers in countries contemplating this policy option, as a way to devise adequate support schemes and complementary policies.

On a related matter, research would also be useful in relation to the allocation of funding to R&D. Indeed, many countries are now moving towards funding in priority research projects reaching a critical mass, although the issue of identifying what critical mass means across different fields of research remains unresolved. Further research would therefore be required in this area to inform policy development.

A3.1.4 Outcomes and returns of tertiary education activities

Tertiary education policy diagnosis and development is also impaired to a significant extent by data and research gaps in relation with the outcomes and returns of tertiary education activities. These information gaps relate in particular to progress and completion, the quality of outcomes and the comparative performance of different programmes and TEIs, information on non-cognitive outcomes of tertiary education, the labour market performance of tertiary graduates, and the returns of international activities of TEIs.

With respect to progress and completion of tertiary education programmes, a number of countries lack information on student retention, dropout, progress, completion and time needed for completion disaggregated according to the background of students to give insight into equity issues once students from disadvantaged groups are enrolled in tertiary education. Indeed, enhancing equity is as much about expanding access for disadvantaged students as well as ensuring that those who enrol in tertiary programmes are adequately supported to succeed. There is thus an evident need to develop stronger data instruments on participation and success by disadvantaged groups in countries where such information is not yet available. The knowledge gained from such information would allow the development of appropriate mechanisms to reduce inequalities in tertiary education.

As far as the quality of outcomes and the performance of tertiary education are concerned, there also seems to be a significant lack of relevant national and institutional data in several countries participating in the Review to assess the performance of the tertiary education system as a whole, as well as the performance of individual TEIs. In particular, there would be a need to develop baseline information on progress, completion and time needed for completion of tertiary programmes disaggregated by field of study and TEI. Currently, very limited data are available on such critical elements of information in a number of countries. Without precise statistical data for each individual TEI, it is very difficult to track student progress and to help TEIs benchmark their efficiency – in a quality improvement perspective – relative to other TEIs offering similar programmes. The *Unistats* Web site developed in the United Kingdom is an interesting model in this respect (www.unistats.com).

But completion rates and time needed for completion are only rough measures of quality. Another area which is under-researched relates to the learning outcomes of

students in different TEIs. Few countries collect such data at national level and there is no such endeavour at the international level (see Box 5.2; Stensaker, 2003; Nusche, 2008). The resulting asymmetries of information complicate students' enrolment decision-making and impede the use of students 'voting with their feet' as a way to encourage TEIs to improve their teaching and learning. Instead, students tend to base their enrolment decisions on perceptions of reputation or imperfect proxies of quality such as the research performance of TEIs or rankings. This situation has the perverse effect of giving TEIs an incentive to focus efforts on research rather than teaching.

A number of countries and stakeholders also stress the importance of seeing tertiary education not only as a preparation for the skilled labour market, but also as an instrument for students' personal development and preparation for active citizenship. Yet, information and research on the impact of tertiary education participation on the development of these non-cognitive skills is scarce, and measuring this contribution of tertiary education would require the development of national assessments of graduate skills.

But the most visible information gaps with respect to tertiary education outcomes often relate to the labour market performance of tertiary graduates and the returns of different types of tertiary qualifications. In particular, there would be a need to develop baseline information on the destinations and employment rates of graduates in specific fields of study. Better data and analysis on the labour market outcomes of students would be especially important in systems that rely heavily upon central or regional authorities to allocate study places, by enabling them to accurately assess current labour market conditions. The *Higher Education Graduate Employment Observatory* in Chile and the *Labour Market Observatory* in Mexico are good models for the development of information systems on the labour market outcomes of tertiary education (see Box 9.1).

Ideally, information systems should also permit the tracking of long-term graduate labour market outcomes, so that TEIs and public officials can understand not only wages and unemployment spells immediately after graduation, but also the longer-term experiences of graduates, including career mobility, occupational change, and job mismatch and over-education. Such information about the link between different types of tertiary education and labour market experiences could then be used to shape policies with respect to the approval of new study programmes, accreditation procedures, and the engagement of labour market participants in institutional governance.

In relation to the employability of tertiary graduates, little is known on the ability of tertiary programmes and TEIs to prepare students for the labour market. Further research would therefore be needed to measure the employment skills of graduates. One way in which this might be done is through the development of a national assessment of graduate skills, as is currently being explored in Australia.

Also, better measures of rates of return of investment in tertiary education would be useful to inform prospective students on the value of tertiary education investments, and possibly encourage individuals from disadvantaged groups to enrol in tertiary education. Such measures exist at the aggregate level, but would be useful at the institutional level or disaggregated by fields of study. Addressing the data gaps mentioned above in terms of labour market returns by TEI and/or field of study would provide researchers with the necessary underlying data to disaggregate the rates of return indicators accordingly.

Lastly, further research and analysis would be needed to assess the outcomes of a number of international activities of tertiary education.

At the individual level, students are encouraged to take part in international mobility in many countries, yet little is known on the quantitative impact of study abroad on their linguistic and multicultural skills, learning outcomes, and future labour market performance, although a few surveys explore these issues in the EU context to assess the impact of EU mobility programmes (Bracht *et al.*, 2006). In most countries participating in the Review, tertiary education systems appear to have a limited capacity to identify individuals and their characteristics, and to trace the paths of those who took part in some form of internationalisation relative to those who did not. This information would however be important to assist government authorities make decisions regarding public support for internationalisation on the basis of hard data rather than hearsay or anecdotes. This calls for better information on the 'international experience' of individuals in graduates or labour force surveys.

At the system level, there would also be a need for improving information on the migration outcomes of international student mobility. It is generally widely accepted that some students who study abroad subsequently settle in their country of study, but there seems to be a relatively weak information base to guide tertiary education policy development. Policy development would benefit from data evidencing brain drain and assessing the extent of the phenomenon. From the perspective of host countries of international students, information on their stay rates would be equally important to assess the outcomes of internationalisation activities.

A3.2 The challenge of addressing information gaps

Identifying data and research gaps impairing evidence-based policy development is however only part of the challenge for policy makers. The real hurdle is to address and fill these evidence gaps.

The biggest difficulty probably lies in the difference in timeframes between policy makers and researchers, whereby policy makers often need swift answers to their questions while data development and analysis are time-intensive. The current development of the OECD *International Assessment of Adult Competencies*, which will eventually provide insight into adults' employment skills – including those of tertiary graduates – is illustrative in this respect. It is expected that it will take between seven and ten years for the programme to deliver results, *i.e.* an eternity at the scale of policy makers. Similar time constraints would apply to develop assessments of cognitive outcomes at institutional level, due to the extensive and sequential work required on scoping the focus of the assessment, feasibility studies, development of instruments, field trials, refinements, final data collections and analysis of results. Moreover, research based on those rich datasets would take a few more months to be completed. Obviously, data collections at national or institutional level are faster to launch and implement than large scale international assessments, but these examples illustrate why it is important to initiate data development as early as possible once a policy issue is identified that lacks empirical evidence.

Similar differences in timeframes exist between policy makers and educational planners at national and institutional level on the one hand, and business and employers on the other hand. Indeed, the time horizon of many employers as regards recruitment planning is often of a few months to one year, whereas the time frame for the tertiary education system to respond to expressed needs is much longer. For instance, it takes approximately one year's planning to develop a new course/programme and then three to

five years for a fresh student to graduate. A challenge for educational planners and policy makers is therefore to anticipate expressed needs and engage in some prospective and forecasting of labour market demand.

Another common problem is that data development often requires coordination between different areas of public authority – *e.g.* labour market and education authorities in case the data needed to assist educational policy development requires amending labour force survey questionnaires, or immigration authorities if information on the previous 'international student' status of recent immigrants is sought. Policy coordination towards data development is also increasingly required between different levels of public authority, and different geographic jurisdictions. Indeed, the trend towards decentralised decision-making in education in many OECD countries has given more responsibility and mandating to local authorities and TEIs themselves, but the drawback of this is that evidence-based education research may be seen as unaffordable in nations that do not have strong central planning of tertiary education. Even if particular regions or individual policy makers were convinced of the importance of evidence-based policy, the lack of generalised agreement on policy priorities coupled with possible regional rivalries and greater or lesser willingness to share information could very well lead to a situation where policy makers see the pooling of resources required to engage the national research community as a time-consuming and fruitless procedure (OECD, 2007).

Addressing data gaps may also face legal obstacles, as evidenced by the recent attempt of French authorities to collect information by ethnic background in order to monitor discrimination, which was prohibited by the French *Constitutional Council*[63]. In many countries indeed, statistical data collections are strictly supervised by legal provisions. In particular, the collection of information on the ethnic or racial background of individuals is forbidden in a number of European countries. Some of these countries have adopted exceptions to this principle in accordance with the *European Commission against Racism and Intolerance (ECRI)* recommendation to collect ethnic data[64] as a way to monitor disadvantage and promote equal opportunity (Simon, 2007). But overall, the example of ethnic data illustrates the difficulties faced by policy makers in improving their information base in some areas. Legal obstacles may also result from the inability by policy makers in some countries to force TEIs – in particular private ones – to respond to their data queries. In other countries by contrast, TEIs are required by law to submit quantitative information to educational authorities on a regular basis, in which case new data requests require a complex process to amend the official questionnaire that TEIs have to fill in. As a result, the collection of new data such as off-budget revenues, academic staff characteristics, completion rates or mode of attendance of students often relies upon the persuasion of respondents and, ultimately, the good will of TEIs' administrators in filling supplementary data questionnaires.

Lastly, the effective use of research as evidence basis in the policy making process critically depends on the nature and depth of the research/policy interface. Indeed, research results that remain within the realm of academia will not be able to be

63 Since 1978, French law prohibits the noting down or taking into account of the ethnic or religious background of people surveyed for statistical purposes (France Diplomatie, 2007).

64 ECRI recommends ethnic data collections as an instrument for shaping sound policies against racism and racial discrimination and for promoting equal opportunities but asks governments to ensure that such data collection must be carried out "with due respect for the principles of confidentiality, informed consent and the voluntary self-identification of persons" (Simon, 2007).

understood or accessed when needed, greatly limiting their impact. Another intricacy also derives from the common contradictions of research results, making it difficult to infer a single course of action that could be reflected in policy. In this context, think tanks and brokerage institutions can play a critical role in bridging the divide between policy makers and researchers. Not only do they filter information so that only the best-available evidence is used for decision-making, but they are also important in bringing together the disparate communities of education researchers and disseminating research results to as wide an audience as possible. In doing so, they help promoting both top-down and bottom-up changes to the system through interactive dialogue between policy makers, researchers and practitioners. Brokerage agencies are most common in the Anglo-Saxon countries, but they are becoming more frequent in continental Europe (OECD, 2007).

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