# Tertiary Education for the Knowledge Society

## OECD Thematic Review of Tertiary Education: Synthesis Report

## Volume 1

# Tertiary Education for the Knowledge Society

## OECD Thematic Review of Tertiary Education: Synthesis Report

by

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## Volume 1 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.

**ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

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# *Foreword*

In April 2004, the OECD Education Committee embarked on a comprehensive international review of tertiary education policy, the OECD Thematic Review of Tertiary Education. Its goal was to help countries share innovative and successful initiatives and to identify policy options to maximise the contribution of tertiary education to national economic and social objectives. In addition to this publication, the Review generated 24 reports by participating countries, 14 reports by external review teams and several research papers (all available on the OECD website at www.oecd.org/edu/tertiary/review).

OECD work helps countries to learn from one another. It can also highlight issues and explore policy options that may be difficult to raise in national debates. Both of these elements clearly underpin this report and the work behind it. The active engagement of Member and Partner economies has been crucial to the process. The 24 participating countries committed substantial resources and opened their tertiary education policies to external review and debate. This collaborative approach enabled countries to learn more about themselves and to add to the broader knowledge base by sharing evidence on the impact of policy reforms and the circumstances under which they work best.

The project benefited substantially from the involvement of organisations representing students, tertiary education institutions, academics, researchers and employers. Their representatives served on national steering committees, prepared written submissions, met with review teams and participated in conferences and workshops. The project also benefited from the involvement of the Business and Industry Advisory Committee to the OECD and the Trade Union Advisory Committee to the OECD and other international organisations interested in tertiary education policy, including the European Association for Quality Assurance in Higher Education, the European Commission, the European Investment Bank, the European Students' Union, the European University Association, Eurydice, the International Association of Universities, the International Network of Quality Assurance Agencies in Higher Education, UNESCO, UNESCO-CEPES (European Centre for Higher Education), UNESCO's International Institute for Educational Planning and the World Bank.

Appendix 1 (in Volume 3 of this report) details the many people and organisations who contributed to the project as national co-ordinators, members of country review teams, and authors of country background reports and commissioned research papers – more than 150 people in all. In addition, the project benefited from the input of hundreds of others through national steering committees, consultations for country background reports and country review visits, and the 150 tertiary education institutions visited by the OECD review teams. We thank them all for their valuable contributions to the collective knowledge base.

The project was carried out by the Education and Training Policy Division of the OECD's Directorate for Education under the leadership of Abrar Hasan (until his retirement) and Deborah Roseveare (since June 2007). Paulo Santiago and Karine Tremblay were responsible for the project and preparation of this report. A partnership was established with OECD's Directorate for Science, Technology and Industry (DSTI),

whereby Ester Basri of DSTI took responsibility for the area of research and innovation. A number of other colleagues contributed to both the project and this report (see *Acknowledgements* below). A larger group of colleagues within the OECD provided advice at key stages. In particular, close collaboration was established with the work of the Programme on Institutional Management in Higher Education (IMHE) on *Supporting the Contribution of Higher Education Institutions to Regional Development* and the work by OECD's Department of Economics on *The Policy Determinants of Investment in Tertiary Education*.

This report was released in Lisbon on 3 April 2008 at an international conference jointly sponsored by the OECD and the Ministry of Science, Technology and Higher Education of Portugal through the Foundation for Science and Technology, and locally organised by the *Instituto Superior de Ciências do Trabalho e da Empresa*, a public university based in Lisbon.

The OECD intends to maintain the momentum of its work on tertiary education and to build on the *Thematic Review of Tertiary Education* and this report.

# *Acknowledgements*

The authors of this report are Paulo Santiago and Karine Tremblay of the Directorate for Education, Ester Basri of the Directorate for Science, Technology and Industry, and Elena Arnal, a consultant. They were supported by contributions from a number of OECD colleagues:

| | |
|---|---|
| Chapter 1: | Paulo Santiago |
| Chapter 2: | Paulo Santiago with support from Viktoria Kis |
| Chapter 3: | Paulo Santiago and Karine Tremblay with support from Marie-Claire Duguay and Thomas Weko |
| Chapter 4: | Paulo Santiago with support from Marie-Claire Duguay |
| Chapter 5: | Karine Tremblay with support from Viktoria Kis |
| Chapter 6: | Paulo Santiago with support from Serge Ebersold |
| Chapter 7: | Ester Basri |
| Chapter 8: | Paulo Santiago with support from Viktoria Kis |
| Chapter 9: | Elena Arnal with support from Thomas Weko |
| Chapter 10: | Karine Tremblay |
| Chapter 11: | Karine Tremblay |
| Appendix 1: | Sabrina Leonarduzzi and Paulo Santiago |
| Appendix 2: | Marie-Claire Duguay and Joanna Godrecka |
| Appendix 3: | Karine Tremblay |

Valuable comments on draft chapters were provided by members of the OECD Secretariat, members of the OECD Education Policy Committee, National Co-ordinators of participating countries, and researchers and international agencies associated with the work.

Thanks are due to the many people who worked on this project at different stages of its development: Thomas Weko (September 2005 to December 2006, shared responsibility for the project and led four country review visits); Richard Sweet (responsible for the project from April 2004 to May 2005, led two country review visits); and Abrar Hasan (led two country review visits). Ian Whitman, Head of the Programme for Co-operation with Non-Member Economies within the Directorate for Education, facilitated the dialogue with non-member economies and participated in one country review visit. Ester Basri, of OECD's Directorate for Science, Technology and Industry was responsible for the work on research and innovation (Chapter 7). Consultant Elena Arnal was responsible for the area of links to the labour market (Chapter 9). Hiroyuki Hase, Young-gon Kim and Akiko Ono of the OECD Secretariat provided substantial input. Akiko Ono also co-ordinated the way the regional aspects of tertiary education are presented in this report and prepared the boxes describing innovative and promising initiatives. Marie-Claire Duguay, Joanna Godrecka and Viktoria Kis provided research assistance. Marie-Claire Duguay also co-ordinated the preparation of the tables summarising features of tertiary education systems. Serge Ebersold contributed a piece on students with a disability in tertiary education. Norton Grubb contributed to the conceptual development of the project. Sabrina Leonarduzzi formatted this report for publication and was responsible for administrative work, workshop organisation and communication with participating countries. Dianne Fowler provided administrative support until March 2006. Susan Copeland provided key input in preparing this report for publication and in developing dissemination strategies.

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**Boxes**

# 1. Introduction

## 1.1 The growing focus on tertiary education

Tertiary education policy is increasingly important on national agendas. The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever before. The imperative for countries is to raise higher-level employment skills, to sustain a globally competitive research base and to improve knowledge dissemination to the benefit of society.

Tertiary education contributes to social and economic development through four major missions:

- The formation of human capital (primarily through teaching);
- The building of knowledge bases (primarily through research);
- The dissemination and use of knowledge (primarily through interactions with knowledge users); and
- The maintenance of knowledge (inter-generational storage and transmission of knowledge).

The scope and importance of tertiary education have changed significantly. Over 40 years ago tertiary education, which was more commonly referred to as higher education, was what happened in universities. This largely covered teaching and learning requiring high level conceptual and intellectual skills in the humanities, sciences and social sciences, the preparation of students for entry to a limited number of professions such as medicine, engineering and law, and disinterested advanced research and scholarship. These days, tertiary education is much more diversified and encompasses new types of tertiary education institutions (TEIs) such as polytechnics, university colleges, or technological institutes. These have been created for a number of reasons: to develop a closer relationship between tertiary education and the external world, including greater responsiveness to labour market needs; to enhance social and geographical access to tertiary education; to provide high-level occupational preparation in a more applied and less theoretical way; and to accommodate the growing diversity of qualifications and expectations of school graduates.

As participation in tertiary education has expanded, TEIs have assumed responsibility for a far wider range of occupational preparation than in the past. As the result of a combination of the increased knowledge base of many occupations and individual's aspirations, not only doctors, engineers and lawyers but also nurses, accountants, computer programmers, teachers, pharmacists, speech therapists, and business managers now receive their principal occupational qualifications from a TEI. Furthermore, TEIs are now involved in a wider range of teaching than their traditional degree-level courses.

While the extent of such teaching is not large, many examples can be found of TEIs that offer adult education and leisure courses, upper secondary courses to prepare students for tertiary-level study, and short specific occupational preparation at sub-degree level. In addition, it has become more common for TEIs not only to engage in teaching and research, but also to provide consultancy services to industry and government and to contribute to national and regional economic and social development.

Substantial reforms are taking place in tertiary education systems mainly aimed at encouraging institutions to be more responsive to the needs of society and the economy. This has involved a reappraisal of the purposes of tertiary education and the setting by governments of new strategies for the future. It has also involved more room for manoeuvre for institutions but with clearer accountability for the institutions to society. The tertiary sector is expected to contribute to equity, ensure quality and operate efficiently. This has been taken up at a meeting of OECD Education Ministers held in Athens in June 2006. Ministers committed their countries to the goal of raising the quality of tertiary education:

> *"At our meeting, we agreed on a new task: to go beyond growth, by making higher education not just* bigger *but also* better*" (Giannakou, 2006).*

Pressures for continued change are unlikely to abate. There is competition among providers of tertiary education and greater sophistication in demand. Fiscal pressures continue. Global competition for highly skilled graduate students and academics will not diminish in the years ahead. New generations of students, more concerned about the link between their studies and working life and newly empowered by a shifting balance of demand and supply may press TEIs for wider flexibility in provision and greater relevance in teaching than they have heretofore. And, various stakeholders within tertiary systems appear to expect continued movement in the direction of greater agility, openness, and resourcefulness from TEIs. The need for continued change was recognised at the meeting of OECD Education Ministers held in Athens in June 2006. Ministers noted that

> *"We all agreed that higher education cannot escape major change. Sometimes change will be difficult. Our meeting here, and these conclusions, represent a clear signal of our determination to lead the necessary changes rather than be driven by them." (Giannakou, 2006).*

## 1.2 Methodology

This report is concerned with tertiary education policies that can help countries achieve their economic and social objectives. It draws on a major study, the *OECD Thematic Review of Tertiary Education*,[1] conducted in collaboration with 24 countries around the world. The fact that so many countries took part indicates that tertiary education issues are a priority for public policy, and likely to become even more so in future years.

The Review was based on volunteer countries working collaboratively with each other and with the OECD Secretariat. It involved examining country-specific issues and policy responses in strengthening the contribution of tertiary systems to socio-economic development, and placing these experiences within a broader framework to generate

[1] Box 1.1 defines what is meant by 'tertiary education' in this report.

insights and findings relevant to OECD countries as a whole. Appendix 1 details the processes involved, the country reports and other documents that have been produced and the large number of organisations and people who contributed to the Review and to the preparation of this report.[2]

The project involved two complementary approaches: an *Analytical Review* strand; and a *Country Review* strand. The *Analytical Review* strand used a variety of means -- country background reports, literature reviews, data analysis and commissioned papers -- to analyse tertiary education policy. All participating countries were involved in this strand and prepared a detailed background report following a standard set of guidelines. They were encouraged to establish a national steering committee of relevant stakeholders to manage this process. Additionally, some countries have chosen to take part in a *Country Review*. This involved an external review team undertaking a country visit. The panel produced a Country Note containing an analysis of national tertiary education policies and policy recommendations.

**Box 1.1. Definition of "tertiary education"**

The term *tertiary education* is a relatively recent one. Previously the more common term was *higher education*, but tertiary education was adopted by the Review in order to reflect the growing diversity of institutions and programmes. *Post-secondary education* is another term used to describe the full range of programmes and institutions available after the completion of upper secondary education. However it is too broad for the Review's purposes, encompassing a far wider range of occupational preparation programmes than is intended to be the focus of the Review, as well as a range of adult education programmes that are also not the primary focus of the Review.

The OECD Thematic Review of Tertiary Education encompasses the full range of tertiary programmes and institutions. International statistical conventions define tertiary education in terms of programme levels: those programmes at ISCED[1] levels 5B, 5A and 6 are treated as tertiary education, and programmes below ISCED level 5B are not.

Programmes at level 5 must have a cumulative theoretical duration of at least 2 years from the beginning of level 5 and do not lead directly to the award of an advanced research qualification (those programmes are at level 6). Programmes are subdivided into 5A, programmes that are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements, and into 5B, programmes that are generally more practical/technical/occupationally specific than ISCED 5A programmes. Programmes at level 6 lead directly to the award of an advanced research qualification. The theoretical duration of these programmes is 3 years full-time in most countries (e.g. Doctoral programme), although the actual enrolment time is typically longer. These programmes are devoted to advanced study and original research.

In some countries the term higher education is used more commonly than tertiary education, at times to refer to all programmes at levels 5B, 5A and 6, at times to refer only to those programmes at levels 5A and 6. An additional complication is presented by the practice, in some countries, of defining higher education or tertiary education in terms of the institution, rather than the programme. For example it is common to use higher education to refer to programmes offered by universities, and tertiary education to refer to programmes offered by institutions that extend beyond universities. The OECD thematic review follows standard international conventions in using tertiary education to refer to all programmes at ISCED levels 5B, 5A and 6, regardless of the institutions in which they are offered. For further details see OECD (2004b).

[1] The International Standard Classification of Education (ISCED) provides the foundation for internationally comparative education statistics and sets out the definitions and classifications that apply to educational programmes within it.

Twenty four countries took part in the Review. They ranged widely in their economic and social characteristics, as well as their approaches to tertiary education. Together they

[2] The project's purposes, analytical framework and methodology are detailed in OECD (2004a).

permitted a comprehensive analysis of key policy issues in a comparative perspective. The countries participating in the Thematic Review were:[3]

- *Analytical Review* strand (24 countries): Australia, Belgium (Flemish Community), Chile, China, Croatia, Czech Republic, Estonia, Finland, France, Greece, Iceland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, Switzerland, and the United Kingdom.
- *Country Review* strand (14 countries): China, Croatia, Czech Republic, Estonia, Finland, Iceland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland and Spain.

There are some striking differences among countries in regard to their tertiary education systems, as illustrated by:

*Participation*: in Australia, Finland, Iceland, New Zealand, Norway, Poland and Sweden over 70% of a single age cohort can expect to enter a tertiary-type A programme at some point in their lives whereas less than 30% can expect so in Mexico and Turkey (OECD, 2007a).

*Private Provision*: in Chile, Japan and Korea, the proportion of tertiary education students enrolled in independent private institutions in tertiary-type B programmes exceeds 80% whereas it is less than 2% in Australia, New Zealand and the Slovak Republic (OECD, 2007a).

*Gender gap*: in Estonia, Iceland, New Zealand, Norway and Sweden the gender gap in participation in tertiary-type A programmes is favourable to females by at least 25 percentage points while such participation is favourable to males in Japan, Korea and Turkey (OECD, 2007a).

*Performed R&D*: in Canada, Greece, Portugal and Turkey over 35% of gross domestic expenditure on R&D is performed by the higher education sector whereas in China, Korea and the Russian Federation less than 10% is so (OECD, 2007b).

*Internationalisation*: in Australia, New Zealand, Switzerland and the United Kingdom more than one out of 8 students originates from a different country whereas international enrolments represent less than 2% of student bodies in Estonia, Greece, Norway and Spain (OECD, 2007a).

By documenting such differences among countries, and trying to understand their causes and consequences, comparative analysis can help to raise questions about long-established practices, as well as help accumulate evidence on the impact of different policy approaches.

## 1.3 Organisation of the report

This report is intended to add value to the wide range of materials produced through the Review by drawing out its key findings and policy messages. This report seeks to:

[3] However, to the extent they are covered by the OECD Education Database, OECD countries which did not take part in the Review are still considered in the analysis and feature in the report's figures and tables.

- provide an international comparative analysis of tertiary education policy;
- integrate the main themes and findings from the Review;
- draw attention to effective policy initiatives in participating countries;
- develop a comprehensive framework to guide tertiary education policy development;
- help further disseminate the country and other documents produced through the Review;
- identify priorities for follow-up work at national, regional and international levels; and
- propose options for future policy development.

The contexts within which tertiary education policy making operate can vary markedly across countries depending upon their historical traditions, social structures and economic conditions. Policy initiatives that work well in one national context are not necessarily transferable. The Review has attempted to be sensitive to this through an approach that analyses tertiary education policies in relation to the values, vision and organisation of tertiary education systems in different countries as well as the broader economic, social and political contexts in which they operate.

The report has ten further chapters. Chapter 2 provides an overview of the impact, trends and challenges of tertiary education. Chapters 3-10 are concerned with the key substantive issues driving the project: steering tertiary systems (Chapter 3); matching funding strategies with national priorities (Chapter 4); assuring and improving the quality of tertiary education (Chapter 5); achieving equity in tertiary education (Chapter 6); enhancing the role of tertiary education in research and innovation (Chapter 7); the academic career (Chapter 8); strengthening ties with the labour market (Chapter 9); shaping the internationalisation of tertiary education (Chapter 10). Each of these chapters discusses the trends and developments that are giving rise to policy concerns, the main factors involved, examples of innovative policy responses, and identifies policy options for countries to consider. Chapter 11 discusses the ingredients of a comprehensive framework for tertiary education policy, ways to build stakeholder involvement in policy development and implementation, the major gaps in the research and information base, and priorities for future work. Appendix 1 details the process by which the project was conducted, and the range of outputs in addition to this report. Appendix 2 depicts the structure of the tertiary education system in each country participating in the Review. Finally, Appendix 3 discusses ways of improving the knowledge base to support tertiary education policy.

The following chapters provide many examples of country initiatives in tertiary education policies and programmes. A number of particularly innovative and promising initiatives are highlighted in self-contained boxes that provide more detail on the reforms. Nevertheless, due to space constraints, it has not been possible to provide all of the necessary detail, and readers are encouraged to consult the relevant Country Background Reports, Country Review reports, and research studies. All the documents produced through the project are available from *www.oecd.org/edu/tertiary/review*. It should be noted that country-specific information given in this report with no associated source or reference is taken from *Country Background Reports* and *Country Review* reports (or *Country Notes*) produced through the Review.

## *References*

Giannakou, M. (2006), Chair's Summary, Meeting of OECD Education Ministers: *Higher Education - Quality, Equity and Efficiency*, Athens, Greece. Available from www.oecd.org/edumin2006

OECD (2004a), *OECD Thematic review of tertiary education: Guidelines for country participation in the review*. Paris: OECD (available from www.oecd.org/edu/tertiary/review).

OECD (2004b), *OECD Handbook for internationally comparative education statistics: Concepts, standards, definitions and classifications*. Paris: OECD.

OECD (2007a), *Education at a Glance: OECD Indicators 2007*, OECD, Paris.

OECD (2007b), Main Science and Technology Indicators Database, Paris.

# 2. Setting the Stage: Impact, Trends and Challenges of Tertiary Education

## 2.1 Introduction

This chapter provides the context for analysing tertiary education policy. First, it summarises evidence on the impact and relevance of tertiary education, in particular its effect on economic growth and the benefits it brings to both individuals and societies. Second, it describes the main trends within tertiary education, with particular emphasis on growth and diversification, and reviews the contextual factors affecting the development of tertiary systems. Finally, it identifies the challenges currently facing tertiary education systems and which are addressed in subsequent chapters. Countries are in the process of making a transition from a focus on quantity to a greater emphasis on the quality, coherence, and equity of tertiary education giving considerable room for tertiary education policy to play a role.

## 2.2 The impact of tertiary education

This section looks into the evidence of the social benefits of tertiary education and their aggregate effect on economic growth. Social benefits of tertiary education can be split into private benefits of tertiary education (which can be monetary[4] or non-monetary) and external (non-private) benefits of tertiary education (also known as *education externalities*). Evidence on these is reviewed below. An attempt is made at focusing on the benefits generated more specifically by tertiary education but the literature often looks at the effects of education in more general terms.

### *2.2.1 Private benefits of tertiary education*

*Private monetary benefits of tertiary education*

The empirical literature provides strong evidence that better-educated people are more likely to be in the labour force, and if economically active, less likely to be unemployed (see Blöndal *et al.*, 2002; Oliveira Martins *et al.*, 2007).[5] There is also strong evidence

4 'Monetary benefits' are also often called 'market benefits'.

5 As noted by Blöndal *et al.* (2002) and Oliveira Martins *et al.* (2007), while the gap in unemployment rates is large for those investing in upper-secondary education (relative to lower levels of education), it is smaller between tertiary-educated workers and those with completed upper secondary education. In 2001, the estimated probability of employment (conditional upon participating in the labour market) for an upper-secondary degree holder was around 92% for women and 95% for men in most OECD countries. With a tertiary degree, the conditional employment probability increases on average by around two percentage points (Oliveira Martins *et al.*, 2007). OECD (2007a) provides figures at country level for employment levels by level of education of individuals.

that better qualifications also attract wage *premia*. In some countries, these are very large, reflecting a greater wage spread in the labour market and possibly higher returns to particular skills (see Peracchi, 2006, for a review of the literature). Overall, empirical studies offer compelling evidence that undertaking tertiary education is a highly profitable investment from the individual's point of view. The measure typically used to assess the profitability of the investment in tertiary education is the internal rate of return to tertiary education (for extensive reviews of the literature see Psacharopoulos and Patrinos, 2004a and 2004b; Psacharopoulos, 1994). Precise estimates of the monetary benefits of tertiary education are presented below. These results draw mostly on recent OECD work which uses sophisticated techniques to estimate both wage *premia* and private internal rates of return (Boarini and Strauss, 2007; Oliveira Martins *et al.*, 2007; and Strauss and de la Maisonneuve, 2007).[6]

*There is significant evidence of the earnings advantage provided by tertiary education*

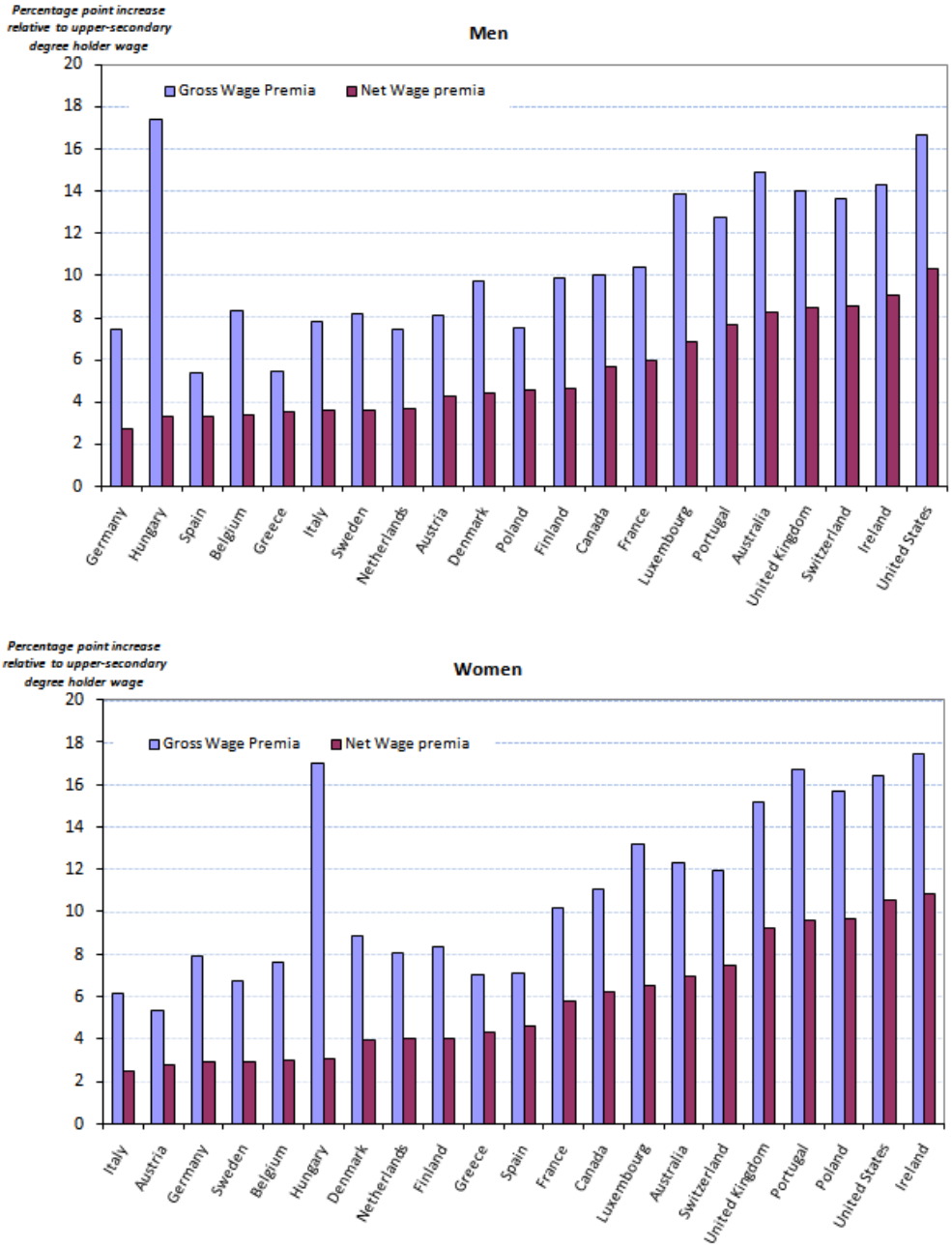
The simplest measure of the private benefits of tertiary education is the higher salaries graduates receive compared to non-graduates – it appears that there is not only an initial earnings advantage upon entry into the labour market but also a wage *premium* that increases with time spent in the labour market (Blöndal *et al.*, 2002). Controlling for a number of individual and context-specific characteristics (other than the level of education) that may affect individual wage earnings, it is possible to estimate the percentage increase in the gross hourly wage earned by an individual completing tertiary education relative to the wage earned by an otherwise similar individual holding only an upper secondary degree. The gross education *premia* estimated in this way reflect *inter alia* both the average quality of skills acquired by tertiary graduates and their scarcity relative to other types of skills. They are translated into net labour market *premia* by taking into account the duration of studies, the higher probability of employment after study completion and the influence of tax and benefit systems on net earnings. Figure 2.1 shows both gross and net labour market *premia* per year of tertiary education for a number of OECD countries in 2001, estimated using individual household panel data (Oliveira Martins *et al.*, 2007; and Strauss and de la Maisonneuve, 2007).

The gross education wage *premia* per year of tertiary education ranged, in 2001, from slightly above 5% for men in Greece and Spain and women in Austria to above 16% for both men and women in Hungary and the United States and women in Ireland and Portugal, suggesting that tertiary education can provide indeed a substantial wage *premium* over secondary education. Net labour market *premia* change somewhat the country rankings. Net wage *premia* exceed 8% for both men and women in Ireland, the United Kingdom, and the United States, men in Australia and Switzerland and women in Poland and Portugal.

6 Compared to previous estimates, an important value-added of this work is the greater coverage in terms of both countries and period. Another innovative aspect is the use of micro-level datasets for the estimation of some of the components of the internal rates of return.

**Figure 2.1. Gross and net wage *premia* of tertiary graduates**

*(Per year of tertiary education, 2001)*




*Countries are ranked in ascending order of the net wage premia.*

*Notes:* Gross and net wage *premia* of tertiary graduates are adjusted for survival rates, experience *premia*, marginal tax rate for employed and unemployed, marginal gross out-of-work replacement rates, probability of unemployment and duration of studies. The year of reference is 1997 for Hungary and 2000 for Poland and Switzerland.

*Source:* Reproduced from Boarini and Strauss (2007).

Peracchi (2006) provides time series on wage *premia* for the United States. The evidence shows that the tertiary wage *premium* for full-time full-year workers declined substantially during the 1970s, increased sharply during the 1980s, and continued to rise, albeit much more modestly, through most of the 1990s. The returns to experience also increased, especially among the less educated. He concludes that the consequence of these trends has been a substantial decline in the relative position of young workers with no tertiary education.

Greenaway and Haynes (2000) summarise a number of noteworthy findings concerning OECD countries. First, they point out that there is a remarkable persistence in the wage *premia* of tertiary graduates over time despite the substantial increase in their numbers in recent decades. They note that if we compare earnings profiles of graduates and non-graduates in the late 1950s and 1990s, the wage *premium* has altered comparatively little despite massive expansion. Second, they note that earnings differentials are more significant for men than women. Third, they observe that graduate earnings differ according to subject studies. For example, graduates in the sciences earn more on average than graduates in the arts.

### Private internal rates of return provide compelling evidence of the profitability to invest in tertiary education

The private internal rate of return (*IRR*) to tertiary education is a standard measure of the profitability to undertake tertiary education. It can be defined as the discount rate that just equates the individual's future benefits with the costs of education to the individual. There is now a consolidated conceptual framework supporting the computation of *IRR*s, as well as considerable empirical evidence both across countries and over time (see Heckman *et al.*, 2006, for a review). From an economic point of view, the private monetary benefits of tertiary education essentially consist in a higher future stream of earnings after graduation.[7]

Figure 2.2 displays the private internal rates of return to tertiary education in 2001 for both females and males in 21 OECD countries computed in recent OECD work (Oliveira Martins *et al.*, 2007; and Boarini and Strauss, 2007). The computation of the *IRR*s took account of the following cost and benefit components:[8]

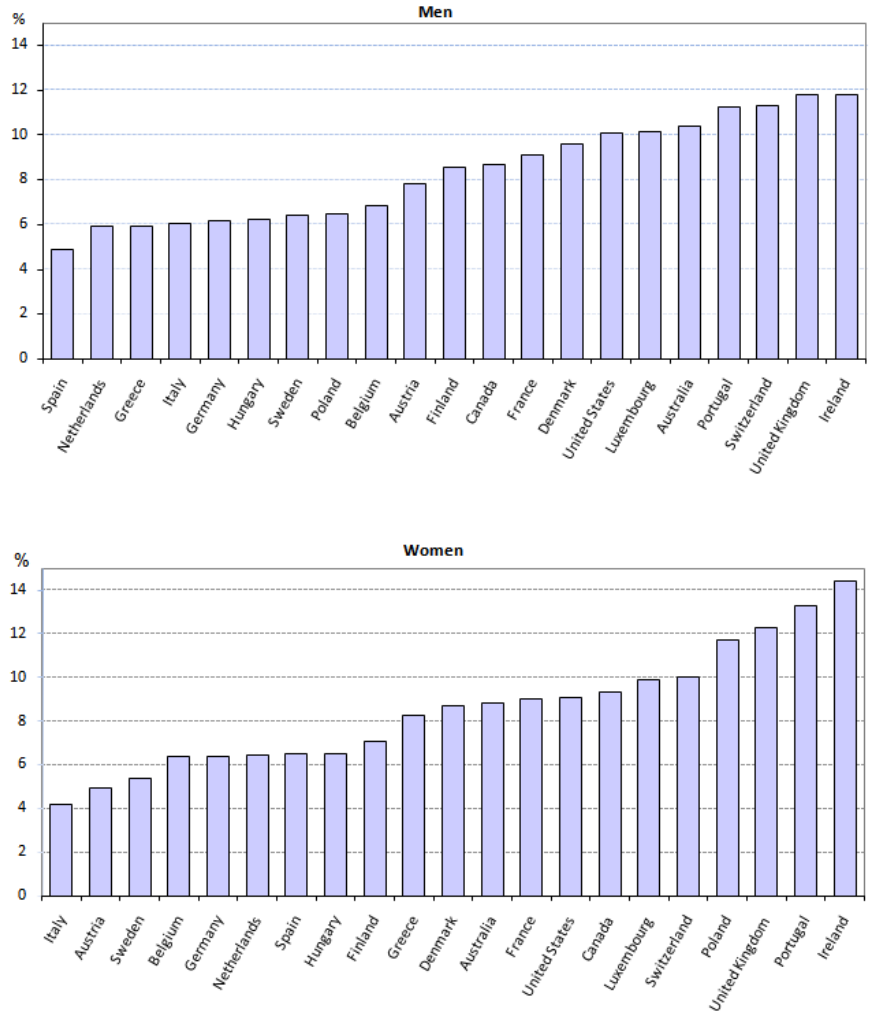
- The *direct costs* of tertiary education (*e.g.* tuition fees, cost of living);
- The *opportunity costs* associated with the several years of income of an upper secondary educated individual foregone during the duration of tertiary studies;

7 A general assumption underlying the computation of private *IRR* is that tertiary education benefits and costs are only pecuniary, although it is widely believed that education yields broader advantages to individuals (*e.g* better health, see below).

8 More specifically, the following policy variables or parameters enter the calculation of the private *IRR* (see Boarini and Strauss, 2007): average and marginal tax rates on labour earnings (including employees' contributions to social security); average and marginal unemployment benefit replacement rates; average and marginal tax rates on replacement income (unemployment and pensions); tuition fees, student grants and loans; the average duration of (completed) tertiary studies; benefit replacement rates of pension systems and their indexation to productivity growth (only public pension systems are considered, but this simplification is not overly restrictive if private pension systems are actuarially fair). As all these flows have to be properly discounted, the pension *premia* that occur in the distant future typically have a lower weight in the calculations than, say, immediate direct or opportunity costs.

– Higher net wages driven by the gross tertiary education *premium*, discussed above;
– A higher probability of being employed throughout working life (or *employability premium*);
– Eventually higher statutory pension benefits (or *pension premium*).

**Figure 2.2. Estimates of the Internal Rates of Return to Tertiary Education, 2001**




*Countries are ranked in ascending order of the internal rates of return to tertiary education.*

*Note:* The year of reference is 1997 for Hungary and 2000 for Poland and Switzerland.

*Source:* Reproduced from Boarini and Strauss (2007).

Private internal rates of return vary from just over 4 to above 14% in 2001 for the 21 OECD countries covered by the analysis. The average return (across both countries and gender) is 8.5%, which is lower than previous OECD estimates but still substantially higher than current market interest rates adjusted for inflation. The range of returns for women is somewhat wider than for men (from over 4 to 14% *vs.* nearly 5 to 12%).

Gender differences in the *IRR* are particularly large in Poland (almost five percentage points). By country, low average returns are found in Austria, Belgium, Germany, Greece, Hungary, Italy, the Netherlands, Spain and Sweden. In all these countries, low *IRRs* are driven by below average net labour market wage *premia*, despite low direct and/or opportunity costs. Moderate *IRRs* are found in Canada, Denmark, Finland, France, Poland and the United States, where labour market wage *premia* are around the OECD country average. Finally, tertiary education yields the highest returns to individuals in Australia, Ireland, Luxembourg, Portugal, Switzerland and the United Kingdom.

The study also shows that *IRRs* are relatively stable over time, with the OECD average slightly increasing between 1994 and 2001. The strongest upwards trends are observed for Denmark, Greece (women in particular), Ireland and Poland. By contrast, the IRR has decreased in Austria (women only) and the United Kingdom (*Oliveira Martins et al.*, 2007).

This is consistent with similar results by de la Fuente and Jimeno (2005) for 14 European countries using a comparable approach except that they use data from labour force rather than household surveys and a smaller set of control variables. The estimated private returns to a one-year increase in schooling, starting from currently observed average attainment levels, cluster between 7.5% and 10% in most member states of the European Union. Sweden is a clear outlier at the bottom of the distribution, possibly as a result of severe wage compression, while the highest returns are found in the United Kingdom and Ireland, followed by Portugal and Finland. The authors conclude that, in practically all European Union countries, the returns to schooling compare quite favourably with those of standard financial assets.

These studies provide estimates for an average *IRR* to tertiary education, with no account of the types of tertiary education undertaken or where and when it takes place. The literature identifies a number of bases on which it would be helpful to differentiate *IRRs* to tertiary education (Ehrenberg, 2004), depending on whether:

- The return depends on the length of the degree (2-year degree *vs.* 4-year degree);[9]
- The return depends upon the type of tertiary education institution (TEI) attended (*e.g.* university *vs.* non-university);
- Completion of a degree at the most selective institutions confers extra economic advantages to students; and
- The return depends on the field of study.[10]

9 Based on 1995 earnings in Canada, Stark (2006) estimates private education returns for men at 9.9%, 4.1% and 1.3% for Bachelor's, Master's and PhD levels respectively. The corresponding estimated returns for women are respectively 12.1%, 8.6% and 4.3%. Borland (2002), analysing the Australian case, finds that returns to tertiary education tend to decrease beyond the Bachelor's degree.

10 Stark (2006), based on 1995 earnings in Canada, finds that scientific fields tend to exhibit greater private returns than non-scientific fields at the Bachelor's level, but there is a large dispersion (*e.g.* from 3.9% in Zoology and 4.4% in Fine Arts to 14.6% in Commerce and 23.3% in Actuarial science). By contrast, a Master's degree is generally more rewarding in non-science fields. Analysing the case of Australia, Borland (2002) finds that business and administration and engineering diplomas yield much higher returns (close to 20%) than those of scientific, social and cultural fields (around 11%).

### *The non-monetary private benefits of tertiary education*

*The literature has identified a number of non-monetary private benefits of education*

Individuals undertaking tertiary education also derive non-monetary benefits from it. The literature has identified a number of private non-monetary benefits of education, but few studies focus on the extent to which tertiary education contributes to these. Private non-monetary benefits of education, as identified in the literature, include the following (McMahon, 2004):[11]

- Better individual and family health;
- Cognitive development of children;
- Fertility, family size and poverty reduction (as a private benefit);
- Consumption efficiency;
- Higher return on financial assets (*i.e.* more educated individuals invest better their money);
- Reduced obsolescence of human capital via new leisure-time learning;
- Non-market job satisfactions (*e.g.* better working conditions);
- Greater amenities in urban life (*e.g.* live in areas where crime rate is low); and
- Pure consumption effects (*e.g.* enjoy student life while in tertiary institution over work).

*But the empirical assessment of the non-monetary private benefits of education is still incipient*

Private non-monetary benefits are not yet clearly identified or understood in the literature and it is difficult to quantify their importance. Their sound empirical assessment is still lacking (Barr, 2001).[12] Some studies, however, provide some indications on potential private non-monetary benefits of tertiary education. For example, results from a longitudinal study in the Netherlands indicate that individuals with lower levels of education were almost three times more likely to engage in excessive alcohol consumption than individuals with a university degree, but with the causality of this relationship not robustly tested (OECD, 2006a). A study based on the 1990 Work, Family and Well-Being Study in the United States, finds that the association between education and depression strengthens with age, and that individuals with tertiary education are more successful at lowering the likelihood of depression because they have better physical health (Miech and Shanahan, 2000, reported in OECD, 2006a). A study by Currie and Moretti (2002) for the United States, using data covering the period 1970-1999, suggests that women with tertiary education are less likely to smoke during a pregnancy (reported in OECD, 2006a). A study in Finland provides some indications that individuals with

11 Surveys of the empirical evidence can be found in Grossman (2006), Pascarella and Terenzini (2005) and Wolfe and Haveman (2001).

12 OECD (2007b) synthesises what is known about the social outcomes of learning – such as the impact of education on health or on civic and social engagement. A focus on the wider benefits of higher education is provided in Bynner and Egerton (2001) and Bynner *et al.* (2003).

tertiary education have improved nutrition habits vis-à-vis less educated individuals: the odds-ratio of being in accordance with dietary guidelines were 31% and 84% higher for those with secondary education and tertiary education, respectively, compared to those with basic education (OECD, 2006a). Schellhorn *et al.* (2000) show that, in Switzerland, older people with a higher educational degree undertake 18% fewer visits to a primary physician than older people with lower levels of education and make greater use of specialist physicians (by 45%) (reported in OECD, 2006a). It should be noted, however, that the causal effect of education is not fully addressed empirically in these studies.

*It appears that non-monetary private benefits might be given little weight in the decision to enrol in tertiary education*

It also appears that, although families and students do value better health, greater longevity, better child education, non-market job satisfactions, they might be unaware of the extent to which these benefits are connected to their further education – therefore it is possible that they are taken for granted by prospective students, reducing the incentive for additional private investment in human capital by individuals (McMahon, 2004). Consistent with this, when specific non-monetary returns including better education and health of future children, stimulation of lifelong learning later in life, and finding a spouse with college-developed values were tested in a sample of 1863 entering university students in the United States, McMahon (1984) finds each of these (except the last) to be of very limited significance relative to expected money earnings.

### *2.2.2 External (non-private) benefits of tertiary education*

External (non-private) benefits of education – or, *education externalities* – are social or public benefits from the education of an individual that benefit others in the society in both current and future generations and which are not appropriated by the individual receiving the education.[13] They are over and above the private benefits that the individual decision maker takes into account in making his or her private decision to invest in education (McMahon, 2004).

A large literature identifies potential education externalities but empirical evidence on their importance is considerably more limited. Further, few studies focus on tertiary education as originating a given education externality. The following are among the education externalities most cited by the literature (McMahon, 2004):[14]

– Health effects of education as it reduces infant mortality, increases longevity, and improves public health;

13 In economics, an *externality* is a cost or a benefit resulting from an economic transaction that is borne or received by parties not directly involved in the transaction in a way that is not transmitted by market prices. Externalities can be either positive, when an external benefit is generated without payment (as occurs with inoculation against disease as the children who benefit indirectly do not have to pay the child who is immunised); or negative, when an external cost is imposed upon others with no compensation (as with a person smoking a cigar in a crowded room as non-smokers in the room do not receive compensation from the smoker for the use of the room's clean air). The participants do not bear all of the costs or reap all of the gains from the transaction. Effects on third parties which are reflected in prices are not externalities. For example, a brilliant surgeon who does much good for humanity creates no positive externality as long as the surgeon's salary reflects the value of his or her services (Rosen, 2005).

14 See McMahon (2004) for more detailed examples.

- Fertility effects as female education lowers fertility rates;
- Democratisation and human rights, as education improves civic institutions;
- Political stability, aided by democratisation and education;
- Crime rate reduction and lower incarceration costs, with white-collar crime a negative externality;
- Poverty reduction and reduced inequality, via wider distribution of education;
- Environmental influences, all of which are indirect; and
- Education's contribution to R&D, and to diffusion of new technology.[15]

McMahon (2004) summarises the quantitative evidence on educational externalities. The existing evidence is limited but, as the author points out, the major shortcoming is that existing studies essentially capture only those externalities which can be monetarily quantified.[16] He reports an estimate of market-measured (monetary) pure externalities returns (social monetary returns minus private monetary returns) of 14% in OECD countries, about 61% of total monetary social returns. Psacharapoulos and Patrinos (2004) give an estimate of pure externalities returns to tertiary education in the United States of 12%. Further McMahon (2004) points out that, if the role of education on technological innovation is removed from static neoclassical models of growth, these externalities largely disappear. However, as emphasised by McMahon (2004), these studies largely ignore the impact of non-market education externalities and indirect and delayed effects on development goals.

Few studies look at the specific externalities generated by tertiary education. A survey in the United States revealed that, with respect to the number of hours volunteered for community service, within each income group, 22% of those with some post-secondary education give their time to community service activities, which is nearly twice as often as the 12% of those with a secondary education (NCES, 1995). Another study (Hodgkinson and Weitzman, 1988) finds that, with respect to financial giving, university educated individuals, within each income group, give twice as often as individuals with secondary education. Bynner and Egerton (2000) using the National Child Development Study in the United Kingdom find a link between tertiary education and participation in community affairs, democratic processes, egalitarian attitudes, parenting and voluntary work. Dee (2004) finds that participation in higher education in the United States, increases the probability of registering to vote by 22 percentage points and actually turning out to vote by 17 percentage points (as reported in OECD, 2007b). A survey of the adult population in Ireland in 2002 showed that tertiary graduates, other things equal, were 7 times more likely to volunteer in the community than those with only secondary attainment (Healy, 2005). These results are similar to those found by Schuller *et al.* (2001) in the United Kingdom. They report that tertiary education graduates were three times more likely to be a current or active member of a voluntary organisation than those who did not complete

15 It should be noted that some of the educational externalities indicated (*e.g.* public health, democracy, political stability) are pure public goods (consumption by one individual generally does not diminish consumption by others) and therefore are also associated with a private benefit.

16 Jacobs and van der Ploeg (2005) also conclude that there is no suggestive evidence favouring externalities of human capital.

secondary education (below 'A-Levels') and about twice as likely as upper secondary completers (reported in OECD, 2006a).

Some evidence suggests that more education is also associated with greater utilisation of preventative health care, which contributes to savings in health care systems. For cervical screening and mammography, evidence from Australia, Canada, the United Kingdom and the United States shows that women with tertiary education are more likely to uptake regular screenings. However, the specific causal effect of education on the demand for preventative health care has not yet been fully addressed empirically (OECD, 2006a).

### *2.2.3 Social rates of return*

Social benefits of education amount to the sum of private benefits of education (both monetary and non-monetary) and external (non-private) benefits of education (both monetary and non-monetary). The social rates of return, defined as the discount rate that just equates the future social benefits with the social costs of education, take into account the entire range of social benefits of education. Unlike private rates of return, the social rates of return reflect the full investment costs. These are not just those to the individual and his or her family, including forgone earnings, but also those to the society in the form of institutional costs and grants. They also reflect all benefits, not just the monetary benefits to the individual but also, the monetary and non-monetary education externalities benefiting current and future generations that individuals take for granted (McMahon, 2004).

Estimated social rates of return to tertiary education documented in the literature are typically lower than private rates of return (see OECD, 2001a, for a review of studies measuring the social benefits of education). This is because as they tend to include only monetary benefits (and often do not account for education externalities), they end up reflecting the further account of the costs of provision borne by taxpayers in addition to the costs borne by the individual. In practice, given that there are many difficulties in calculating the full costs and benefits, published estimates often rest heavily on a relatively narrow range of measurable factors. Even so, as documented in Blöndal *et al.* (2002) and the successive editions of OECD's *Education at a Glance* starting in 2002, social rates of return are typically above 5% in real terms for tertiary education.

McMahon (2004) explores the argument that standard estimates of social rates of return include only a portion of the total social effects of education. He argues that these estimates are limited to the monetary (private and external) returns and do not include the non-monetary private or the non-monetary external benefits of education. He further argues that choosing the narrower static interpretation of the neoclassical model (used to estimate externalities) where the specifications tend to focus on direct effects, externalities are often found to be negligible or even zero. Using a dynamic specification of the neoclassical model that allows accounting for indirect and long delayed effects of education externalities in the development process, he finds evidence for substantial externalities of education. His investigation suggests that the total value of education externalities as a percentage of social returns to education, within the OECD area, is estimated to be between 37% and 61%. Based on this analysis, he provides preliminary estimates of the social rates of return that include non-monetary returns and externalities. His preliminary estimates for the social rates of return to tertiary education are 17.8% in the OECD area, 24.3% in Africa, 23.2% in Asia and 26.1% in Latin America,

significantly higher than a benchmark return of, say, 10% available on average for private investment alternatives in bonds or physical capital (McMahon, 2004).

### *2.2.4 Impact of tertiary education on economic growth*

The types of benefits described above have an aggregate impact on economic growth, an issue which is the subject of a vast empirical literature. These studies assess the impact of the stock and rate of change of human capital on the levels and rates of economic growth. A study by the OECD (2001a) summarises this literature. It stresses that the multitude of models and databases used to assess the impact of education on growth have produced mixed results, with some showing a strong effect and others indicating no effect at all. It is explained that while the so-called "new growth" models[17] improved the ability to identify the impact of education on growth, the evidence they provide remains not as strong as expected.[18] As recognised by many authors (*e.g.* Krueger and Lindahl, 1999; de la Fuente and Domenech, 2000; Bassanini and Scarpetta, 2001), this is partly linked to poor data quality and the inability to identify the complex interactions through which human capital plays a role in the growth process. There are many factors likely to influence the growth of industrialised economies. These include: national governance; overall economic and political stability; macroeconomic policies; financial, legal, and corporate institutions; regulatory policies; and policies for labour, science and technology, and education. In this complex mix, models are limited in the extent to which they account for the indirect effects of education (*e.g.* on national governance).

Other work by the OECD using a rich data set shows that "the improvement in human capital has been one of the key factors behind the growth process of the past decades in all OECD countries, but especially so in Germany (mainly in the 1980s), Italy, Greece, the Netherlands (mainly in the 1980s) and Spain where the increase in human capital accounted for more than half a percentage point acceleration in growth with respect to the previous decade" (OECD, 2000a). For OECD countries as a whole, the implication is that each extra year of full-time education (corresponding to a rise in human capital by about 10%), is associated with an increase in output *per capita* of about 6%.

The summary in OECD (2001a) also stresses that "new growth" models provide more solid evidence of the role of education and learning on growth through generating new technology and innovation. In particular, tertiary education is identified as important for the development of innovative research and the ability to acquire and adopt it. When, for instance, spending on research and development is included in growth models, the independent effect of schooling appears to be reduced (*e.g.* Nonneman and Vanhoudt, 1996, as reported in OECD, 2001a).

Some papers have focused on the growth-inducing role of tertiary or post-compulsory education. Evidence is scarce but Gemmell (1996), splitting the country samples by income level, finds that, other things equal, tertiary education seems to be more important for economic growth in OECD countries, while primary and secondary education are more important for economic growth in developing countries. Similar results were obtained by Gemmell (1995) and Barro and Sala-i-Martin (1995), as reported in OECD

17 "New growth" models permit to differentiate "types" of education and take account of potential education externalities.

18 Krueger and Lindahl (1999), Lange and Topel (2006), Stevens and Weale (2004) and Temple (1999, 2001) provide reviews of the literature on the impact of education on growth.

(2001a). An important aspect is the impact of tertiary education by field of study. Investigating the impact of human capital on labour productivity growth for OECD countries during 1950-88, Gittleman and Wolff (1995) find that the number of scientists and engineers *per capita* has a significant positive impact on productivity. Greenaway and Haynes (2000), in interpreting the empirical literature, propose the following four key findings about the role of tertiary education on growth: *(i)* countries with higher average years of education tend on average to grow faster; *(ii)* OECD countries which expanded their higher education sector more rapidly from the 1960s experienced faster growth; *(iii)* education is more important via its effects on productivity than directly as a factor input; and *(iv)* there is some evidence that education positively affects physical investment in the economy which in turn further increases growth rates.

As reported in OECD (2001a), a generally favourable picture of the impact of human capital on growth has emerged from a review by Temple (2001) in which he concludes:

> *"Over the last ten years, growth researchers have bounced from identifying quite dramatic effects of education, to calling into question the existence of any effect at all. More recent research is placed somewhere between these two extremes, but perhaps leaning closer to the original findings that education has a major impact. In examining the studies that have not detected an effect, we have some convincing reasons (measurement error, outliers, and incorrect specification) to doubt such results. The balance of recent evidence points to productivity effects of education which are at least as large as those identified by labour economists."*

Wolf (2004) suggests that the empirical evidence on the impact of education on economic growth should be interpreted with care. She argues that often policy makers make decisions on educational investments on the basis of misinterpretations of the current empirical evidence of the impact of education on growth. First, the author points out that the current evidence of education on growth is not as strong as could be expected – she interprets this as indicating that the strong relationship between education and individual earnings might not fully reflect higher marginal productivity but rather be more related to signalling or credentialism. Second, she stresses that growth models used to empirically assess the impact of education use a very simple measure of education as the best proxy available: years of formal education completed. She argues that there is a risk that policy makers emphasise quantity of education over its quality, when the educational process and the mechanisms through which it impacts on growth and prosperity are considerably more complex than those implied by current empirical models. She suggests that tertiary education policies should put more emphasis on quality and particular attention should be given to the way resources are allocated and combined.[19]

In her paper, Wolf (2004) conveys three main messages. First, there are cases where more education does seem clearly associated with higher productivity, but their nature differs between countries and across time. This could be the basis for favouring

19 One drawback of most cross-country work is the inability to account for important differences in the nature and quality of schooling across countries, which could undermine the usefulness of international comparisons (Temple, 2001, as reported in OECD, 2001a). Hanushek and Kimko (2000) and Barro (2001), using data on international tests of cognitive ability in mathematics and science, estimate the quality of different groups in the adult labour force. They find that using measures based on the quality of education provides a more powerful explanation of economic growth in different countries than simply years of schooling (as reported in OECD, 2001a).

investments in certain sectors of tertiary education over others. Second, she indicates that a growing body of evidence points to the importance of quantitative/mathematical skills in developed economies, which might suggest specific investments in tertiary level training in these areas. Third, according to the author, "the economic performance of both a sizeable output of innovative research, and the symbiotic relationship between a country's successful industries and its universities are well-attested." She also reports evidence that the strength of countries in various different sectors (*e.g.* pharmaceuticals, software engineering) is closely related to the areas in which they possess centres of university excellence.

## 2.3 Trends and contextual developments in tertiary education

### *2.3.1 Trends in tertiary education*

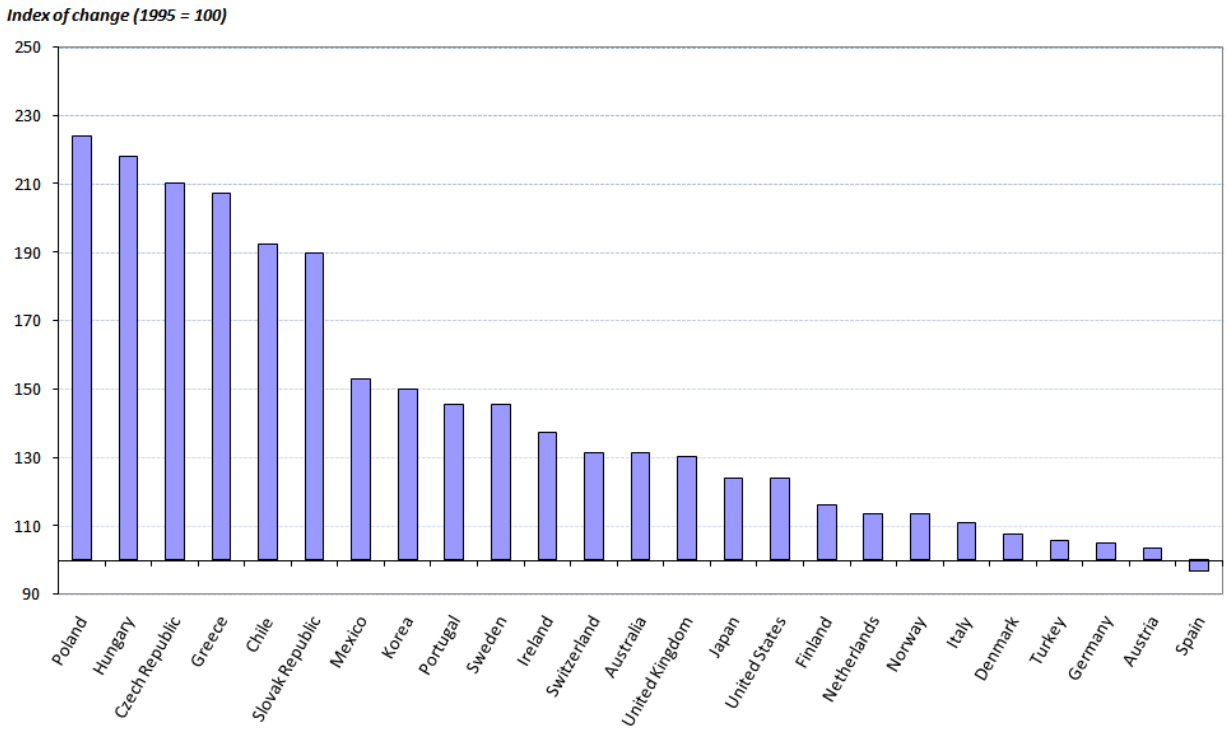
*Expansion of tertiary education systems*

The expansion of tertiary education has been remarkable in recent decades. Globally, in 2004, 132 million students enrolled in tertiary education, up from 68 million in 1991 (UNESCO, 2006). Average annual growth in tertiary enrolment over the period 1991-2004 stood at 5.1% worldwide. Over this period, growth was: *(i)* particularly marked in East Asia and the Pacific (8.1%), Sub-Saharan Africa (7.2%), and South and West Asia (6.8%); *(ii)* around average in Latin America and the Caribbean (5.1%) and Central and Eastern Europe (5.0%); and *(iii)* below average in North America and Western Europe (1.9%). The ratio of the number of tertiary students to the tertiary school-age population[20] increased between 1991 and 2004 from 52 to 70% in North America and Western Europe, 33 to 54% in Central and Eastern Europe, 17 to 28% in Latin America and the Caribbean, and 7 to 23% in East Asia and the Pacific (UNESCO, 2006, Table 1, p. 23).

In the last decade, the number of students in tertiary education has increased in practically all OECD countries. Figure 2.3 shows the expansion between 1995 and 2004. In this period, the number of students enrolled in tertiary education more than doubled in the Czech Republic, Greece, Hungary and Poland and rose between 50 and 100% in Chile, the Korea, Mexico and the Slovak Republic. Spain was the only OECD country where the absolute number of tertiary students decreased (by 3%).

[20] Defined as the five-year cohort after the theoretical/typical age of secondary education completion (variable across countries).

**Figure 2.3. Change in the number of students in tertiary education between 1995 and 2004**



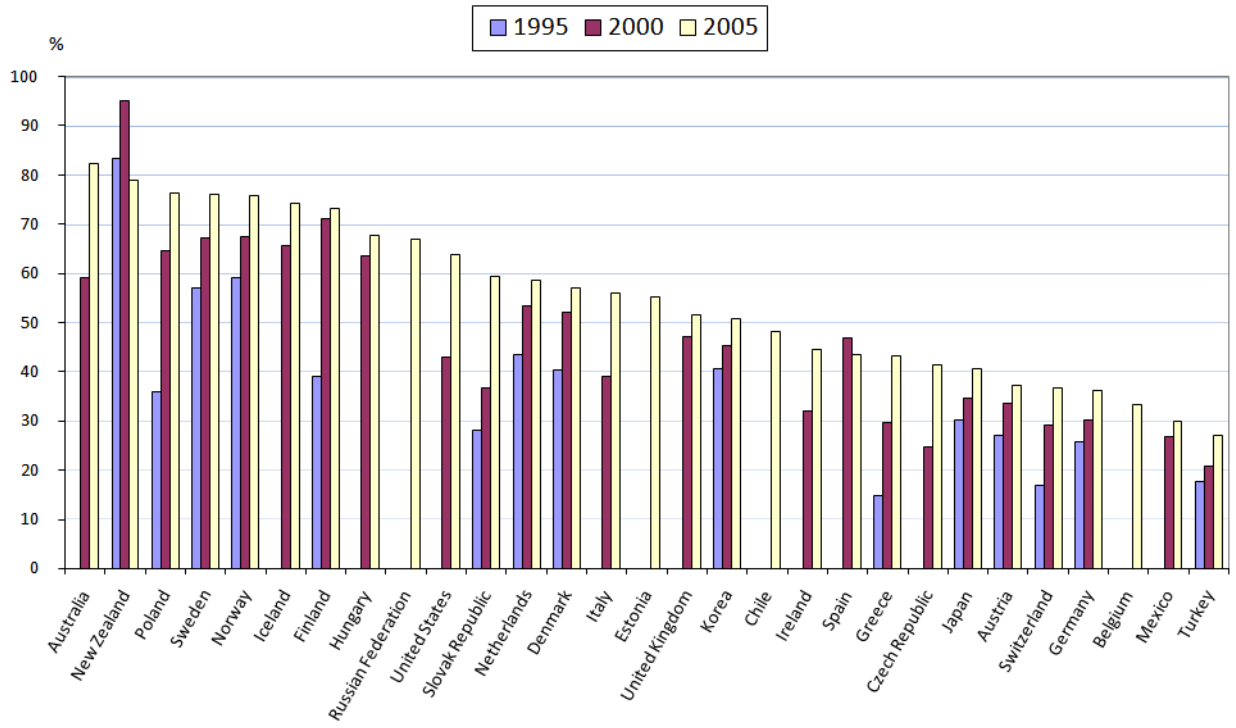

*Countries are ranked in descending order of the change in the number of students in tertiary education between 1995 and 2004.*

*Note:* Data for Japan include post-secondary non-tertiary education while data for the Slovak Republic do not include Tertiary-type B education. Data for Hungary, Poland, Portugal, Switzerland and Turkey refer to public institutions only. For Chile, the year of reference is 2005.

*Source:* OECD (2007a).

Participation rates in tertiary education of over 50% for a single age cohort are becoming the benchmark for OECD countries. Figure 2.4 shows the net entry rates in tertiary-type A programmes for 1995, 2000 and 2005. Net entry rates represent the proportion of people in a single age-cohort who enter a given level of tertiary education at some point in their lives. In 2005, over 70% of a single age cohort could expect to enter a tertiary-type A programme in Australia, Finland, Iceland, New Zealand, Norway, Poland and Sweden. In the same year, other countries such as Chile, Denmark, Estonia, Japan, Korea, the Russian Federation and the United Kingdom combined net entry rates in tertiary-type A programmes above 40% with net entry rates in tertiary-type B programmes above 20%. In 2005, net entry rates in tertiary-type B programmes stood above 30% in Belgium, Chile, Estonia, Japan, Korea, New Zealand and the Russian Federation (OECD, 2007a). Net entry rates increased in the period 1995 to 2005 in all countries for which data are available with the exception of New Zealand.

**Figure 2.4. Net entry rates in tertiary-type A programmes, 1995-2005**




*Countries are ranked in descending order of the net entry rates in tertiary-type A programmes in 2005.*

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

*Notes:* Entry rates include advanced research programmes for 1995 and 2000. Data for Belgium exclude the German-speaking Community of Belgium. Entry rates for Italy, Japan, Korea, Chile and the Russian Federation are calculated as gross entry rates.

*Source:* OECD (2007a).

Gibbons (1998) suggests that forces behind the expansion of tertiary education include the democratisation of politics and society after World War II; the expansion of the public sector and the subsequent increased demand for white collar workers; a growing industrial economy that needed highly skilled and educated workers; the widespread view that educated manpower is essential for economic development; and finally 'the attractiveness of education itself as a major element of the new welfare states, sustaining and legitimating democratic societies'.

Schofer and Meyer (2005) explore the worldwide expansion of tertiary education in the 20th century using pooled panel regressions. Their study identifies factors that were associated with growth in enrolment numbers. They find that tertiary systems expanded faster in countries with expanded secondary education systems and in those 'with strong

links to the international system or the "world polity"'. In addition, 'economic development tends to have a positive effect on enrollments, but the effect is not significant in the early part of the century or in models with improved measures that control for secondary enrollments'. Conversely, enrolment increased at a slower pace in ethnically and linguistically diverse countries, suggesting the competition between different status groups leads to under-representation of particular groups. The expansion was slower in countries with centralised educational systems, where governments had greater capacity to limit growth. Starting around the 1960s, the rate of increase in enrolments became considerably higher in all types of countries distinguished in the analysis. The authors suggest that this worldwide trend is linked to 'global institutional changes linked to the rise of a new model of society: increasing democratisation and human rights, scientisation, and the advent of development planning'.

### *Diversification of provision*

Expansion of tertiary education was accompanied by a diversification of provision. New institution types emerged, educational offerings within institutions multiplied, private provision expanded, and new modes of delivery were introduced.

#### Development of non-university sectors and diversification of educational offerings

The growth of non-university sectors is among the most significant structural changes which occurred in tertiary education systems in recent times. Many countries established new sectors of institutions that are alternatives to traditional universities. Examples include the *Instituts Universitaires de Technologie* (IUTs) in France (created in the mid 1960s), the Technical and Further Education Colleges (TAFE) in Australia (early 1970s), the German *Fachhochschulen* (early 1970s), the Polytechnic Institutes in Portugal (late 1970s), the regional colleges (*Distriktshøgskoler*) in Norway (early 1970s), the *Hogscholen* (HBO) in the Netherlands (late 1980s), the Polytechnic sector (AMK) in Finland (early 1990s), the *Universidades Tecnológicas* (early 1990s), the *Universidades Politécnicas* (early 2000s) and the *Universidades Interculturales* (mid 2000s) in Mexico, and the Swiss Universities of Applied Sciences (late 1990s), among many others. While these institutions are enormously varied, their common objective is to be strongly employer-oriented and closely integrated with the labour market needs of each locality and region (Grubb, 2003; OECD, 2005a) (see also Chapter 3).

A number of factors led to the expansion of more vocationally-oriented sectors. With the expansion of systems, governments wanted to create clear and distinctive alternatives to universities, to meet the increasingly diverse needs of the labour market (Kyvik, 2004). Doubts arose concerning the capacity of traditional universities to handle the rapid growth, as well as their ability to respond to the demands of individuals and a gradually more knowledge-based economy. The emergence of new types of institution was also part of regional development strategies with enhanced social and geographical access to tertiary education. These institutions were seen as more innovative in responding to the needs of local communities (Kyvik, 2004) and as more accommodating of the growing diversity of individual qualifications, motivations, expectations and career plans of students (Goedegebuure *et al.*, 1994). Educating a larger proportion of students in short programmes also allowed governments to reduce the costs involved with the provision of tertiary education (Kyvik, 2004).

A related trend is the growing diversity of educational offerings within single institutions, regardless of their type. For instance, traditional universities are increasingly expanding their educational offerings to include short-cycle courses and more vocationally-oriented degrees. This trend reflects that, in some countries, distinctions between institutional types have become blurred. In some of these, university systems have become formally 'unitary'. For instance, binary university systems were abolished in Australia and the United Kingdom in the late 1980s and early 1990s respectively.[21]

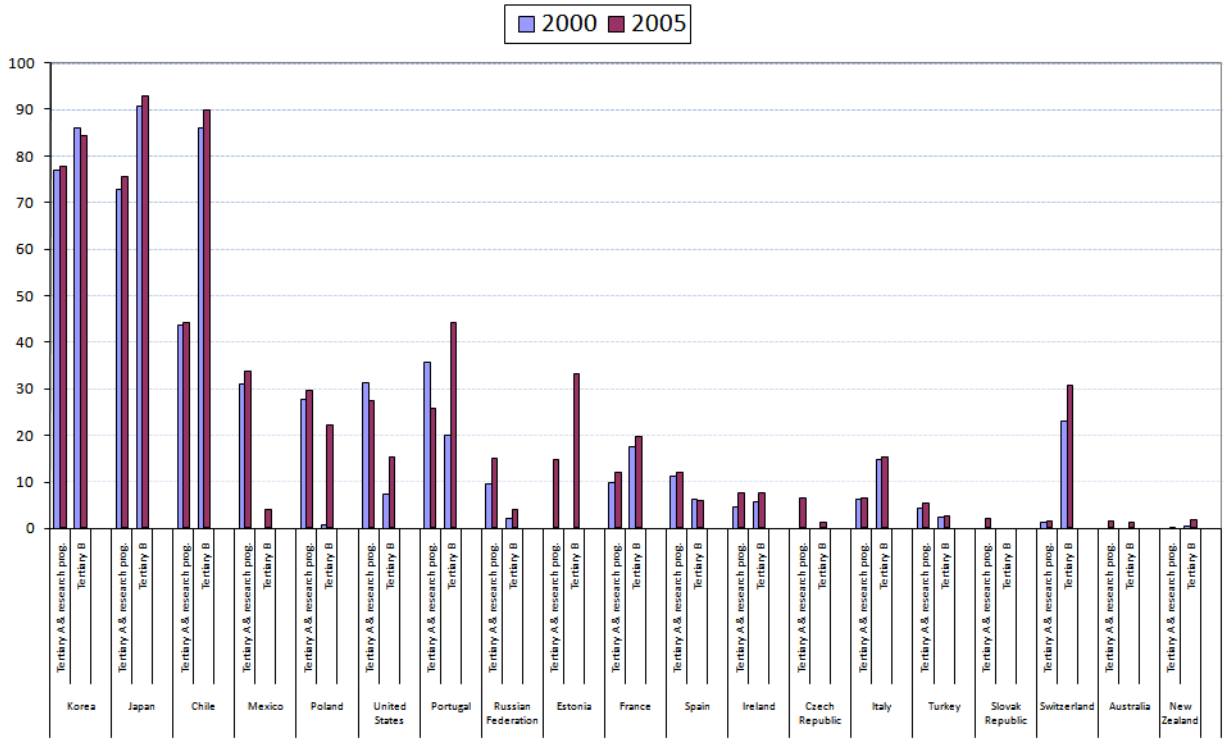
### Sizable private provision in some countries

A response to the growing demand for tertiary education in countries with limited public resources has been the expansion of private provision of tertiary education.[22] Figure 2.5 illustrates marked differences across countries in the proportion of tertiary students enrolled in independent private institutions (for both tertiary-type A and tertiary-type B programmes). Over 70% of students in both types of programmes in Korea and Japan and students in tertiary-type B programmes in Chile are enrolled in independent private institutions. Other countries with well-established independent private tertiary sectors include Estonia, Mexico, Poland, Portugal, the Russian Federation, Switzerland (in tertiary-type B education) and the United States. By contrast, countries with minor independent private tertiary sectors include Australia, Denmark, Greece, New Zealand and the Slovak Republic. In other countries, a good proportion of students are enrolled in government-dependent private tertiary institutions. These include Austria, Belgium, the Czech Republic (in tertiary-type B education), Estonia, Finland, Germany (in tertiary-type B education), Hungary, Iceland, New Zealand (in tertiary-type B education), Norway, Sweden, Switzerland and the United Kingdom (where all institutions have this legal status) (OECD, 2007a). Between 2000 and 2005, in most countries there was a slight expansion of the independent private sector. In this period, sharp expansions occurred in tertiary-type B education in Poland, Portugal, Switzerland and the United States. By contrast the importance of the private sector decreased in tertiary-type A education in Portugal and the United States.

21 In both Australia and the United Kingdom unitary university systems coexist with vocationally-oriented systems (Technical and Further Education (TAFE) institutes in Australia and Further Education Colleges in the United Kingdom).

22 In this report, tertiary education institutions are classified as either 'public' or 'private' according to whether a public agency or a private entity has the ultimate power to make decisions concerning the tertiary education institution's affairs (e.g. activities, appointment of managers, decision to open or close the institution). The extent to which an institution receives its funding from public or private sources does not determine the classification status of the institution between public and private, and some institution may be classified as private even though they are mainly funded by central/regional government authorities. A 'government-dependent private institution' is a private institution that either receives 50% or more of its core funding from government agencies or one whose teaching personnel are paid by a government agency - either directly or through government. An 'independent private institution' is a private institution that receives less than 50% of its core from government agencies and whose teaching personnel are not paid by a government agency (OECD, 2004a).

**Figure 2.5. Proportion of tertiary education students enrolled in independent private institutions**




*Countries are ranked in descending order of the proportion of tertiary education students enrolled in independent private institutions in Tertiary-type A or advanced research programmes in 2005.*

*Note:* Years of reference for the Russian Federation are 2001 and 2004. 2000 data for Chile refer to 1999.

*Source:* OECD (2002) and OECD (2007a).

## New modes of study and delivery

Modes of delivery have also considerably diversified. The development of more flexible ways of provision such as distance learning and e-learning has improved access to a wider range of student populations and contributed to meet increasingly diverse demand (OECD, 2005b). These are also seen as more cost-effective alternatives to traditional modes of tertiary education in light of growing constraints on public budgets and the increasing demand for tertiary education (Salmi, 2000). New technologies have also brought about changes in approaches to teaching, especially at under-graduate level, with standardised courses often delivered online, and different use of classroom time with more small seminars and interactive discussions, and more time spent with students on their individual projects.

The demands of students are also changing. Learners increasingly seek courses that allow them to update their knowledge throughout their working lives. In addition, as learners seek to acquire particular knowledge or skills to satisfy labour market needs, more and more prefer to pick and choose courses from the most suitable providers, rather than studying a traditional clearly defined programme at one institution. As a result, TEIs have started to extend their lifelong learning offerings and, accordingly, the organisation of learning is increasingly adapting to include: the assessment of prior learning; a wider

range of programmes; part-time learning; module-based curricula and credit systems; competence-oriented, student-centered organisation of studies; provision of non-degree studies and continuing education (Schuetze and Slowey, 2002).

*More heterogeneous student bodies*

The rise of female participation has been the most noteworthy trend affecting the composition of student bodies in tertiary education. Figure 2.6 depicts the difference in tertiary education attainment between females and males for different age groups, as of 2005. It shows that, in every country for which data are available, tertiary education attainment of females progressed enormously relative to that of males over the past three decades, as illustrated by the changes in attainment between the cohorts aged 25-34 and 55-64 in 2005. The progress of female participation is also visible in terms of net entry rates to tertiary education. In 2005, 61% of females could expect to enter tertiary-type A education at some point in their lives on average in the OECD area compared to 48% for males (OECD, 2007a). In 1998, these proportions (net entry rates) were 43% for females and 37% for males (OECD, 2000b). In some countries differences in net entry rates can be sizeable. In 2005, while 96% of females in Iceland could expect to enter tertiary-type A education at some point in their lives, only 53% of males could expect so. Other countries in which this difference has become significant include Denmark (69% net entry rate for females against 45% for males), Estonia (68% against 43%), Finland (84% against 63%), Hungary (78% against 57%), New Zealand (93% against 64%), Norway (89% against 63%) and Sweden (89% against 64%) (OECD, 2007a).

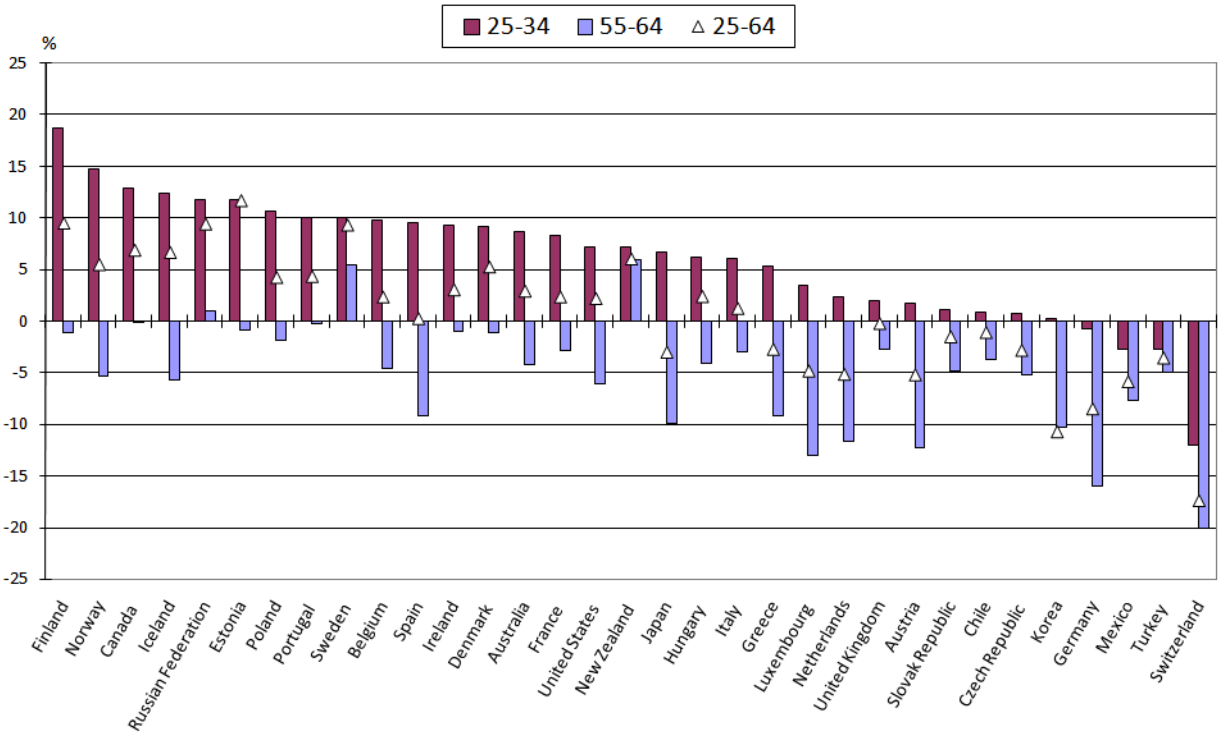
A second prominent development is the growing participation of more mature students leading to a rise in the average age of student bodies. Among the 20 OECD countries for which data are available in 1998 and 2005, the median age[23] of new entrants into tertiary-type A education increased in half of them (most notably in Australia from 19.5 to 20.9; Belgium from 18.7 to 19.5; and Iceland from 22.3 to 23.1); remained constant in four of them; and decreased slightly in six of them (Hungary, Mexico, Netherlands, New Zealand, Norway and Spain). In 2005, the median age of new entrants into tertiary-type A education was highest in Iceland (23.1), Denmark (22.7) and Sweden (22.5) and lowest in Greece (18.6), Ireland (19.0) and Spain (19.0).

In addition, in most countries, tertiary student bodies are increasingly heterogeneous in terms of socio-economic background, ethnicity and previous education. Today, TEIs include an increasing number of non-traditional students, 'those who had not entered directly from secondary school, were not from the dominant social groups in terms of gender, socio-economic status or ethnic background, or were not studying in a full-time, classroom based mode' (Schuetze and Slowey, 2002). This diversification reflects the increasing social demand for tertiary education and the subsequent wider participation.

However, the expansion of tertiary education has not resulted in wider access for all groups of non-traditional students. While in many developed countries, women now form the majority of tertiary students, other groups such as 'older people without traditional entry qualifications for higher education, people from working class background, those living in remote or rural areas, those from ethnic minority or immigrant groups' remain under-represented in tertiary education (Schuetze and Slowey, 2002) (see also Chapter 6).

23 50% of new entrants are below the median age.

**Figure 2.6. Difference between the percentage of females and the percentage of males who have attained at least tertiary education, by age group, 2005**




*Countries are ranked in descending order of the difference between the percentage of females and the percentage of males, in the age group 25-34, who have attained at least tertiary education.*

*Note:* Years of reference are 2004 for Chile and 2003 for the Russian Federation.

*Source:* OECD (2007a).

### *New funding arrangements*

A number of trends are also discernible in funding arrangements for tertiary education. First, there has been a diversification of funding sources. The relative proportion of expenditure on TEIs by private sources – *i.e.* households and other private entities - increased from 1995 to 2004 in 16 of the 20 countries for which data are available (the four exceptions are the Czech Republic, Ireland, Japan and Spain). Countries in which the increase has been more significant include Australia (from 35 to 53%), Chile (75 to 85%), Italy (17 to 31%), Mexico (23 to 31%), Portugal (4 to 14%), the Slovak Republic (5 to 19%), and the United Kingdom (20 to 30%) (OECD, 2007a). This reflects, in part, an overall trend of greater contributions of students and their families to the costs of tertiary education. Cost-sharing is under debate in many OECD countries and some countries have recently introduced or raised tuition fees to increase the financial resources available to institutions. Private resources have also been mobilised through the commercialisation of research and other private uses of institutional facilities and staff (see also Chapter 4).

Second, the allocation of public funding for tertiary education is increasingly characterised by greater targeting of resources, performance-based funding, and

competitive procedures. In some countries, institutions are now receiving a sizeable share of public funds through developmental programmes attached to specific policy objectives such as the introduction of innovative curricula, the improvement of management practices, or the enhancement of the collaboration with surrounding communities. Programme-based targeted funding is organised through competitions or the individual assessment of proposals. The basis for allocating core funding to institutions is also becoming more output-oriented. In a number of countries, formulas to allocate public funds to institutions are now related to indicators such as graduation rates. Research funding is also increasingly allocated to specific projects through competitive processes rather than block grants. There are also a number of countries, such as New Zealand and the United Kingdom which link the allocation of research funds to assessments of research quality. This takes place in settings where there are increasingly separate resource streams for research and general institutional expenditures (see also Chapters 4 and 7).

Third, a number of countries are expanding their student support systems. Between 1998 and 2005, the expansion of the proportion of total public expenditure on tertiary education allocated to financial aid to students (scholarships and loans) was more remarkable in Australia (from 28 to 33%), Austria (10 to 18%), Chile (24 to 35%), Germany (11 to 18%), Korea (3 to 18%), Norway (29 to 41%) and Turkey (2 to 19%). Another trend in some countries is the importance loans have gained relative to grants in overall financial aid packages. Repayable type of aid gained in importance in countries such as Australia, Chile, New Zealand, Turkey, and the United Kingdom (OECD, 2007a; OECD, 2001b) (see also Chapter 4).

*Increasing focus on accountability and performance*

The development of formal quality assurance systems is one of the most significant trends that have affected tertiary education systems during the past few decades (El-Khawas, 1998). Starting in the early 1980s quality became a key topic in tertiary education policy. According to El-Khawas (1998), there were a number of broad trends behind the development of quality assurance systems, including the massification of tertiary education, the growing diversity of educational offerings and the expansion of private provision. While traditional, often informal quality assurance procedures may have suited tertiary systems with a small number of institutions and students, expanded and diversified systems require formal procedures (El-Khawas, 1998). It is argued that confidence in tertiary education can no longer be based on a combination of quality embedded in elitism and tight governmental regulation of the educational process (Brennan and Shah, 2000) (see also Chapter 5).

Van Vught and Westerheijden (1994) suggest that the expansion of tertiary education raised questions about the amount and direction of public expenditure for tertiary education. The societal benefits of tertiary education legitimised its growing cost, but assuring its quality became essential in this respect. Growing pressure on governments to limit public spending was another related factor: 'Budget-cuts and retrenchment operations automatically lead to questions about the relative quality of processes and products in higher education' (van Vught and Westerheijden, 1994).

In addition to fiscal constraints, increased market pressures have also fostered the growing focus on accountability in tertiary education. In the United States, for instance, students and parents have expressed resistance to tuition hikes and called for more

accountability for the quality and cost-effectiveness of TEIs. Tertiary education has thus become more consumer-driven (Gumport *et al.*, 1997).

*New forms of institutional governance*

Over the past few decades important changes have occurred in the leadership of TEIs, including the emergence of new perspectives on academic leadership and new ways of organising the decision-making structure. Academic leaders are increasingly seen as managers, coalition-builders or entrepreneurs (Askling and Stensaker, 2002). TEIs are increasingly accountable for their use of public funds and are required to demonstrate 'value for money'. They are under pressure to improve the quality of their teaching and research, while the availability of resources is limited by growing funding constraints.

Developments in the area of institutional governance include the establishment of governing bodies composed of internal and external stakeholders and operating at a more strategic level; the authorisation for TEIs to be established as legal persons (foundations, not-for-profit corporations); and the widening of institutional autonomy permitting innovations in areas such as contracting for services, labour relations, and public auditing (see also Chapter 3).

*Global networking, mobility and collaboration*

Tertiary education is becoming more internationalised and increasingly involves intensive networking among institutions, scholars, students and with other actors such as industry. International collaborative research has been strengthened by the dense networking between institutions and cross-border funding of research activities.

International mobility of students and academics has been happening for a very long time, however over the past few decades such mobility has expanded and numerous cross-border educational providers emerged. In particular, 'the last decade has witnessed explosive growth in international trade in education services, particularly at the tertiary level and in specialised training fields' (Sauve, 2002). According to van der Wende (2003), national tertiary education systems are not always able to meet the growing and diversifying demand of students. This creates opportunities for foreign education providers and leads to the emergence of a global market for tertiary education. 'This trend is sometimes described as trans-national education, borderless education, or (in the case of online delivery) as global e-learning and is linked to a growing commercial interest in higher education.' (van der Wende, 2003). There is a variety of cross-border tertiary education ventures, ranging from 'twinning programmes' that link an institution in one country with a partner institution in another, to the establishment of branch campuses abroad (Altbach, 2004) (see also Chapter 10).

Altbach (2004) argues that there is also a trend towards the internationalisation of the curriculum, although to a different extent in different disciplines. Ideas from major academic centres tend to be dominant in fields such as business and management studies, information technology and biotechnology. On the contrary, history, language studies and many fields in the humanities are more nationally based. It is argued that the worldwide use of instructional materials originating from large academic systems, particularly France, the United Kingdom and the United States contributes to the internationalisation of the curriculum. Common textbooks and course materials are increasingly used in tertiary education systems all over the world. This trend is enhanced by the influence of multinational publishers, the Internet and databases (Altbach, 2004).

### *2.3.2 Contextual developments*

*Globalisation*

Globalisation, interpreted as the growth of economic activity across national and regional political boundaries, finds expression in the increased movement of tangible and intangible goods and services, including ownership rights, via trade and investment, and often of people, via migration (Oman, 1996). It leads to increasing global connectivity, integration and interdependence in the economic, social, technological, cultural, and political domains. Some analysts stress convergence of patterns of production and consumption and a resulting homogenisation of culture across boundaries (see Chapter 10).

A possible reflection of this phenomenon in tertiary education is the observation that the direction of reforms carried out throughout the past few decades was similar worldwide, regardless of political-economic systems, higher education traditions, technological development and cultural views (Johnstone, 1998). There appears to be a global trend towards extensive participation, focus on lifelong learning, decreasing reliance on public funding and growing preference for market-oriented systems (Kwiek, 2001; OECD, 2008a).

A development with a large potential impact on tertiary education systems is the inclusion of trade in education services in the new services negotiations of the General Agreement on Trade in Services (GATS). These negotiations began in 2000 under the auspices of the World Trade Organisation (WTO). The GATS aims at promoting the liberalisation of international trade in services, including trade in education services (Geloso-Grosso, 2007). Some argue that the GATS can help facilitate the entry of private and foreign tertiary education providers into countries where national capacity is insufficient. However, as explained by Geloso-Grosso (2007), liberalisation "is no easy task and requires sound regulation and effective institutions to address market failures and ensure public policy objectives. This is particularly the case in the areas of quality of service and recognition of qualifications, equity and potential downsides stemming from students going overseas." He defends that "If appropriately designed, bound liberalisation under the GATS can contribute to the advancement of national objectives by improving investor's confidence when countries decide to allow private sector participation in higher education. While many of the policies needed to manage liberalisation of tertiary education services are not shaped by the GATS, the Agreement can affect the regulatory conduct of governments in some areas of tertiary education."

The perspective of certain types of education falling within the scope of trade regulations and agreements has been source of an intense debate on the nature of education, particularly in those OECD countries where education is provided as a public service on a not-for-profit basis (OECD, 2004). There is a concern in relation to the potential effects of the GATS on governments' ability to maintain its right both to publicly subsidise education and to put in place related regulation (Geloso-Grosso, 2007). GATS critics are also concerned that increased trade might exacerbate the negative consequences of market-driven, for-profit education such as the increased number of 'diploma mills', 'canned degrees' and 'accreditation mills' (Knight, 2003).

*Regional integration processes*

Regional integration processes are also affecting tertiary education systems of many countries, albeit to a different extent. While Europe seems to be the most advanced regarding the convergence of tertiary education, there have been initiatives for regional collaboration in other regions, as well (de Prado Yepes, 2006).

In Europe, the Bologna Process is an intergovernmental initiative which aims to create a European Higher Education Area by 2010. The Bologna Declaration, with 46 signatory countries by mid 2007, started a series of reforms in individual countries needed to make higher education in Europe more compatible and comparable, more competitive and more attractive for Europeans and for students and academics worldwide.[24] The ten action lines of the Bologna Process are: *(i)* Adoption of a system of easily readable and comparable degrees; *(ii)* Adoption of a system essentially based on two cycles (with doctoral level qualifications now considered as the third cycle in the Bologna process); *(iii)* Establishment of a system of credits; *(iv)* Promotion of mobility; *(v)* Promotion of European co-operation in quality assurance; (vi) Promotion of the European dimension in higher education; *(vii)* Focus on lifelong learning; *(viii)* Inclusion of higher education institutions and students; *(ix)* Promotion of the attractiveness of the European Higher Education Area; and *(x)* Doctoral studies and the synergy between the European Higher Education Area and the European Research Area. European countries are also reinforcing co-operation in vocational education and training through the parallel Copenhagen Process, signed in 2002 by 31 European countries. The work is currently focusing on areas surrounding quality assurance and the transparency and recognition of qualifications (through the *European Qualifications Framework for Lifelong Learning*, EQF). The Bologna Declaration has led to an increased focus in policy debates on the employability of graduates. In many countries, the process encouraged policy initiatives aimed at improving links between higher education and the labour market (Huisman and van der Wende, 2004).

In South America, a major development in the regionalisation of tertiary education was the approval in 1992 of a plan for the MERCOSUR Education Area. Key challenges have included making education systems compatible, facilitating the recognition of studies and the homologation of degrees. While progress in the recognition of primary and secondary education was simpler to achieve, the recognition of tertiary education studies has proved more challenging (Fernandez Lamarra, 2003). An important step was the establishment of the MERCOSUR Experimental Mechanism for Career Accreditation (MEXA) for the recognition of under-graduate tertiary degrees granted by those institutions whose curricula are accredited on the basis of agreed standards. Accredited degrees would be recognised in member countries making possible for professionals to move within the region. For North America, de Prado Yepes (2006) argues that the regionalisation of tertiary education is rather limited to initiatives promoting university collaboration on a voluntary basis as is the case of the Consortium for North American Higher Education Collaboration.

Regionalisation of tertiary education and the cross-border recognition of degrees is also becoming an important issue in Asia. Developments in this area started with the creation of the *Association of Southeast Asian Institutions of Higher Learning* in 1956. The Association seeks to foster the cultivation of a sense of regional identity and interdependence and liaison with other regional and international organisations concerned

24 It should be noted that the Bologna Process is a European rather than a European Union endeavour.

with research and teaching. In the context of the ASEAN (Association of Southeast Asian Nations), after two decades of irregular discussions and small pilot projects, the *ASEAN University Network* was launched in 1995 with the aim of promoting student and staff exchange, information networking and research collaboration (de Prado Yepes, 2006). Other developments in the region include the establishment in 1993 of the *University Mobility in Asia and the Pacific* (UMAP) – an association of governmental and non-governmental representatives of the tertiary education sector in the region – and steps towards the creation of a UMAP Credit Transfer Scheme (Mongkhonvanit and Emery, 2003) (see Chapter 10).

*Contribution to knowledge-based societies*

A country's ability to generate and exploit knowledge is an increasingly crucial factor determining its economic development. While natural resources and cheaper labour used to form the basis of comparative advantages, innovations and the use of knowledge are becoming more important. Economic growth is increasingly based on knowledge accumulation. Knowledge-based intangibles such as training, research and development, or marketing account for about one-third of the investment of firms. Economies of scope, 'derived from the ability to design and offer different products and services with the same technology' (Salmi, 2000), are an increasingly important driving force for expansion. This is particularly true in the case of high-technology industries such as electronics, where economies of scope outweigh the importance of economies of scale (Salmi, 2000).

Increasingly knowledge-based economies and the need to improve a country's international competitiveness put tertiary education systems under increasing pressure to contribute to economic growth. This is well illustrated in the European Union by the key contribution expected from tertiary education systems to the Lisbon Strategy which established that by 2010 the European Union was to become "the most competitive and dynamic knowledge-based economy in the World capable of sustainable economic growth with more and better jobs and greater social cohesion" (Lisbon European Council, 2000). As stated in a communication from the European Commission (European Commission, 2005), TEIs are essential in strengthening the 'three poles of the knowledge triangle': education, research and innovation.

The production of knowledge has also changed in a number of ways, which brings challenges to tertiary education. Gibbons (1998) argues that there have been fundamental adjustments regarding the notion of science and the ways science is produced, disseminated and absorbed into society. The development of a 'distributed knowledge production system' with the transition from Mode 1 towards Mode 2 knowledge production is one of the key changes (see Table 2.1):

> *"The main change, as far as universities are concerned, is that knowledge production and dissemination – research and teaching – are no longer self-contained, quasi monopolistic activities, carried out in relative institutional isolation. Today universities are only one amongst many actors involved in the production of knowledge, and this is bound to govern, to some extent, the future relationships that universities will seek to establish" (Gibbons, 1998).*

**Table 2.1. Key characteristics of Mode 1 and Mode 2 knowledge production**

| Mode 1 characteristics | Mode 2 characteristics |
|---|---|
| Emphasis on the individual | Emphasis on teams |
| Academic control and authority over research direction | Research direction shaped by interaction between researchers and users |
| Discipline-based | Problem and issue based<br>Transdisciplinarity |
| Local organisational knowledge base | Organisational diversity, networks, connectivity draws together knowledge from diverse sources |
| Quality judged by peer review | Broadly-based quality control incorporating academic peer review and judgements of users (*e.g.* economic and social impact) |

*Source:* Coaldrake and Stedman (1999) based on Gibbons (1998)

Gibbons argues that universities have been adept at producing knowledge. However, they will need to become competent at reconfiguring knowledge that was produced elsewhere. The ability to re-use knowledge in some other combination, reconfigure it with other forms of knowledge in order to solve a problem or to meet a need is becoming crucial. TEIs will need to make adjustments to satisfy these new needs. A major resulting challenge for universities is 'to take the lead in the training of knowledge workers – individuals who are skilled and creative at making use of knowledge that may have been produced anywhere in a global distributed knowledge production system' (Gibbons, 1998).

### *Information and communication technologies*

The information and communication revolution has drastically improved capacity to store, transmit, access and use information. The cost of transmitting information has significantly fallen, leading to the quasi abolition of physical distance. Information access and communication among people, institutions and countries are no longer hindered by logistical barriers (Salmi, 2000). The development of information technology has the potential to transform tertiary education by changing the communication, storage and retrieval of knowledge (Castells, 2000). Academics and students increasingly rely on the Internet to undertake research, as well as to disseminate their own work (Altbach, 2004). The Internet has had a democratising effect on scientific communication and access to information by improving access for academics at institutions that lack good libraries. International networks are also facilitated by lower costs of communication and transportation (OECD, 2008b).

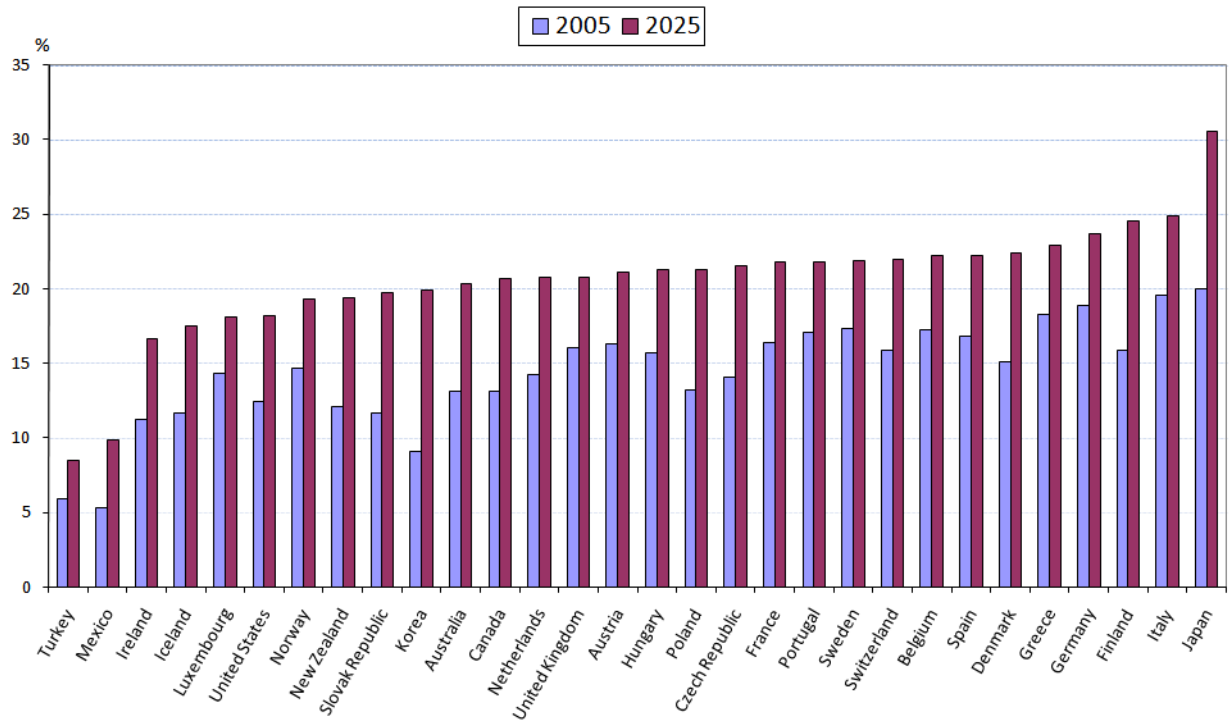
Rapid progress in information and communication technologies (ICTs) has also fostered the development of new ways of learning, such as distance learning and independent study (Schuetze and Slowey, 2002). ICTs had an impact on tertiary education already before the development of digital media and the Internet. For instance, the development of print, audio-visual and broadcast media largely facilitated the expansion of distance education (Thorpe, 2005). E-mail and video conferencing not only allow students in distance education programmes to have frequent contact with their tutors, but also offer new opportunities for campus-based programmes (Thorpe, 2005).

The role of libraries is being transformed as well, they are no longer used just to store books and journals, but also to provide access to databases, Web sites and a variety of IT-based products (Hawkins, 1998 in Altbach, 2004).

*Demographic developments*

Population ageing affects all OECD countries, as illustrated by Figure 2.7. The ratio of the population aged 65 and over to the total population is predicted to exceed 20% by 2025 in 20 of the 30 OECD countries, with expected aged populations more manifest in Finland, Germany, Greece, Italy and Japan. This will create a number of challenges for countries. An increasing strain on public finances is likely with projected increases in public expenditure on pensions and health care. The other aspect of population ageing is the slowdown in the growth of the population aged 20 to 64 where participation in the labour market is concentrated. This is likely to lead to a sharp drop in labour force growth and, thus, to slower economic growth, especially in *per capita* terms and also to a reduction of tax revenues (OECD, 2006b).

**Figure 2.7. Ratio of the population aged 65 and over to the total population**




*Countries are ranked in ascending order of the ratio of the population aged 65 and over to the total population expected in 2025.*

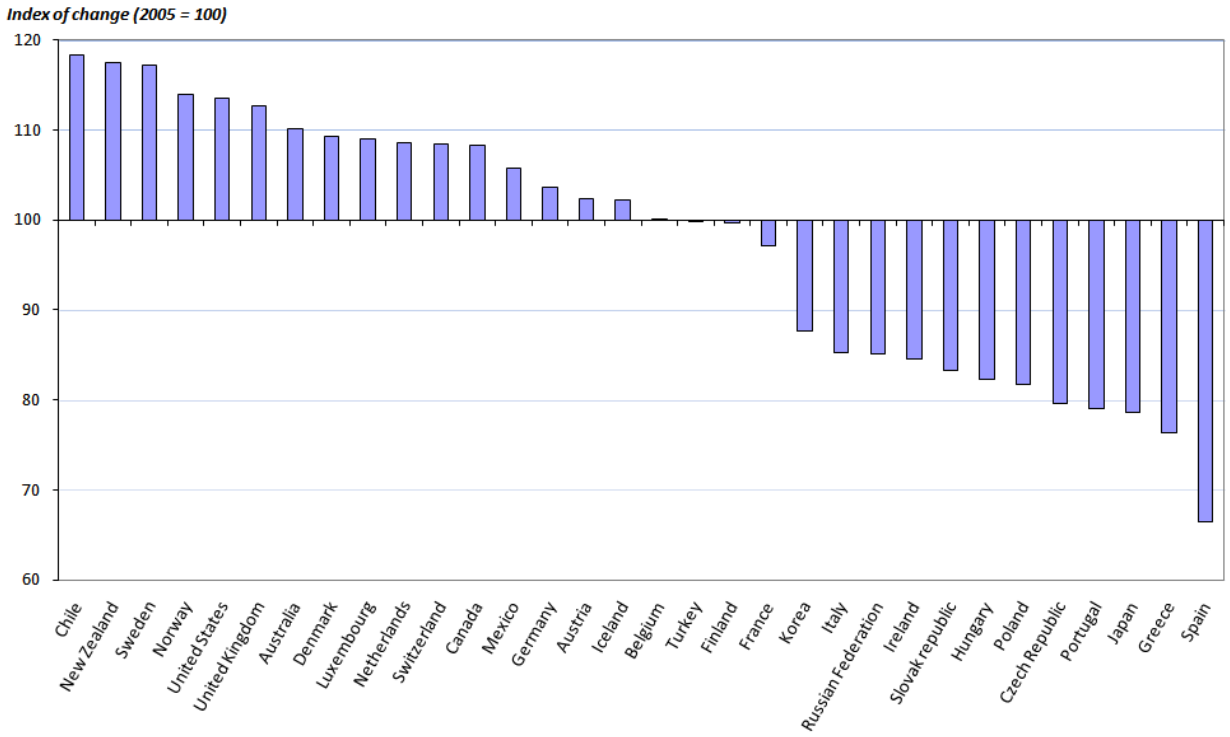
*Source:* OECD (2007c).

Policies to meet the economic challenges of ageing societies include encouraging older workers to remain in the labour force, increasing immigration and implementing policies leading to productivity growth (OECD, 2006b). Achieving the latter, through the strengthening of human capital formation, R&D and innovation, will require important

contributions from the tertiary education sector. Population ageing also increases the need for opportunities for lifelong learning. Work-force ageing means that a larger share of the working population will need to refresh their skills and knowledge during their career. Countries will increasingly rely on mid- and late-career workers in order to meet evolving skill needs. TEIs will also have to cope with the ageing of their workforce (see Chapter 8).

The size of the population of typical tertiary school age also affects tertiary education systems. Figure 2.8 provides the expected demographic changes within the population aged 20-29 over the period 2005-2015. There is great variation of the projections across countries. In about half of the countries, the size of the 20-29 age group is expected to expand, the trend being more pronounced in Australia, Chile, New Zealand, Norway, Sweden, United Kingdom and the United States (where projected growth exceeds 10%). By contrast, the 20-29 age group is expected to shrink in about the other half of the countries, with a marked drop exceeding 20% in the Czech Republic, Greece, Japan, Portugal and Spain.[25]

**Figure 2.8. Expected demographic changes within the population aged 20-29 between 2005 and 2015**




*Countries are ranked in descending order of the expected demographic changes within the population aged 20-29 between 2005 and 2015.*

*Source:* OECD (2006c).

25 The impact of demographic changes on the tertiary education sector is analysed in OECD (2008c).

## 2.4 Challenges in tertiary education

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 TEIs. 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.

Country Background Reports indicate that changes in the context in which tertiary education takes place, new external pressures and expectations on TEIs have created numerous challenges. Some examples of challenges and opportunities for tertiary education systems mentioned in Country Background Reports are as follows.

Steering tertiary education

**Articulating clearly the nation's expectations of the tertiary education system.** A key challenge for government is to provide a clear articulation of the nation's expectations of institutions of tertiary education. The objective is to devise a common vision for the system and agree on the medium and long term strategy for tertiary education.

**Aligning priorities of individual institutions with the nation's economic and social goals**. Institutions of tertiary education, as recipients of public funds, are experiencing new pressures to adjust rapidly, efficiently and fairly to the changing demands of society and the labour market. This reflects the greater recognition of the contribution of tertiary education to economic growth, regional development and innovation. The challenge is to reconcile the broader priorities as perceived by society and the priorities of individual institutions.

**Creating coherent systems of tertiary education.** As a result of rapid expansion, some tertiary systems evolved in somewhat fragmented and uncoordinated ways with limited attention to the creation of a coherent *system* of inter-related institutions. The challenge for governments is to create coherent systems in which individual institutions are given opportunities to define a clear profile and mission and students are able to easily move across institutions and programmes. The aim is to create and maintain a system of diverse, sustainable, and high-quality institutions responsive to external demands and accountable for the outcomes they produce.

**Finding the proper balance between governmental steering and institutional autonomy.** In devising mechanisms to enable TEIs to operate effectively in a new environment, governments face the challenge of finding the appropriate balance between their steering and institutional autonomy. The challenge is to introduce a new relationship between governments and TEIs so that institutions are accountable for their performance, but given sufficient autonomy in the direction of their own affairs to be dynamic and creative.

**Developing institutional governance arrangements to respond to external expectations.** Countries are recognising the importance for institutional governance

arrangements to further evolve to reflect the increasingly diverse interests that institutions serve.

Funding tertiary education

**Ensuring the long-term financial sustainability of tertiary education.** A major challenge for countries is to secure sufficient funding levels to enable TEIs to meet the growing expectations of society and respond to the growing demand by students, in a context of tight education budgets. TEIs have been under pressure to diversify their revenues and reduce their dependence on public funding. This raises broad issues such as the appropriate balance between public and private contributions and ways to ensure that access is not hindered by new funding arrangements.

**Devising a funding strategy consistent with the goals of the tertiary education system.** Countries are seeking to design funding approaches consistent with the policy goals sought for their tertiary education systems. This includes the introduction of elements of funding more directed towards performance and results.

**Using public funds efficiently.** Some countries are concerned with inefficiencies in their systems, including high student drop-out rates, excessive time for completion, programme duplication, programme under-enrolment, and insufficient use of cross-institution collaboration.

Quality of tertiary education

**Developing quality assurance mechanisms for accountability and improvement.** The growth of tertiary education, the diversity of educational offerings, and the expansion of private provision has led to increasing attention to the development of quality assurance systems. These are now seen as essential to hold institutions accountable and as a vehicle for improvement and innovation.

**Generating a culture of quality and transparency.** There is growing awareness and acceptance that learners need to be protected from the risks of misinformation and low-quality provision and that quality improvement is to be part of daily activities of the actors in the system. Countries are seeking to ensure that key stakeholders – including students, families, policy-makers, and employers – gain better information about the quality and cost of tertiary education.

**Adapting quality assurance to diversity of offerings.** Countries are devising differentiated systems of quality assurance to account for the diversity of missions and profiles of TEIs. The emergence of new delivery modes, such as e-learning, also requires new approaches to quality assurance.

Equity in tertiary education

**Ensuring equality of opportunities.** In a number of systems the expansion of tertiary education has occurred with little thought for equity issues. The question of equity of access, which relates more to the question of differences in participation rates among groups of students – by gender, ethnicity, and socio-economic status of students and their families –, is now receiving more policy attention.

**Devising cost-sharing arrangements which do not harm equity of access.** Limitations in public budgets have led to the expansion of cost-sharing in most

countries. A key policy concern is to devise cost-sharing arrangements which do not harm participation by the most disadvantaged groups, in particular through the development of student financial aid systems.

**Improving the participation of the least represented groups.** Countries are faced with low levels of participation in tertiary education of groups such as immigrants, ethnic minorities, students with a socio-economic disadvantage, living in remote areas or with a disability, which more often than not reflect fewer educational opportunities at lower levels of education.

The role of tertiary education in research and innovation

**Fostering research excellence and its relevance.** TEIs make a major contribution to research and innovation by creating new knowledge through scientific and technological research and by training skilled workers through their educational mission. A major challenge in the governance and funding of research is to make research more relevant to society and the economy.

**Building links with other research organisations, the private sector and industry.** Institutions of tertiary education are not the only players in the knowledge production process. Independent research institutes and private companies are key players in national research systems with which tertiary education needs to build links. New collaborative settings, often in a 'context of application', are requiring new forms of engagement of researchers in tertiary education.

**Improving the ability of tertiary education to disseminate the knowledge it creates.** An increasingly important challenge faced by countries is to improve the ability of TEIs to transfer knowledge and technology so the full social and economic benefits are realised.

The academic career

**Ensuring an adequate supply of academics**. Ensuring an adequate supply of academics is a major challenge in some countries. In some disciplines – typically computer sciences, engineering, law, business and economic studies – the private sector offers much higher salaries and/or better career prospects, which makes the recruitment of good academics particularly challenging. Some countries are also faced with the ageing of their academic workforce.

**Increasing flexibility in the management of human resources.** In some countries there are debates about the need for more institutional autonomy in the management of human resources. In some cases, the debate also focuses on moving away from the civil servant status of academics and tenured positions as a way to improve the flexibility in the recruitment of academics, including the setting of more competitive salaries.

**Helping academics to cope with the new demands.** Growing demands on academics - *e.g.* new tasks in the fields of internationalisation; compliance requirements and information requests; interdisciplinarity; administrative duties; industrial research; new pedagogies, including e-learning and various domains of new income generation – raise the challenge of finding new ways of organising academic work and renewing support from institutions' leadership.

Links with the labour market

**Including labour market perspectives and actors in tertiary education policy.** Countries are increasingly engaging labour market representatives in tertiary education policy development and bringing together institutions and representatives of employers and labour unions. The aim is to ensure that educational offerings are informed by the needs of the labour market.

**Ensuring the responsiveness of institutions to graduate labour market outcomes.** As part of the challenge of meeting labour market needs, institutions are more and more encouraged to follow the labour market outcomes of their graduates, seek the views of employers of their graduates and improve their programmes accordingly.

**Providing study opportunities for flexible, work-oriented study.** The transition to knowledge-based economies not only results in a demand for a highly skilled labour force, but also in new training needs. TEIs are increasingly challenged to include lifelong education among its offerings.

Internationalisation of tertiary education

**Designing a comprehensive internationalisation strategy in accordance with country's needs.** Countries participate in the internationalisation of tertiary education with distinct objectives – *e.g.* attract skilled workers, generate revenue, foster exchange and co-operation, use cost-effective alternatives to domestic provision. The challenge is then to design a comprehensive internationalisation strategy consistent with the established objectives. This generally entails the strengthening of policy coherence across education, immigration and international aid authorities.

**Ensuring quality across borders.** The internationalisation of tertiary education and the expansion of cross-border provision with great diversity of providers and delivery methods bring important challenges in protecting students against misinformation, low-quality provision and qualifications of questionable validity.

**Enhancing the international comparability of tertiary education.** Countries recognise the need to make qualifications more understandable and transparent internationally to increase their international validity and portability. International co-operation between national quality assurance and accreditation agencies seeking to increase mutual understanding of tertiary education systems is already visible.

Each of the following chapters explores in more detail the challenges summarised above for each of the identified areas.

# *References*


Altbach, P. G. (2004), "Globalisation and the University: Myths and Realities in an Unequal World", *Tertiary Education and Management*, 10, 3.

Askling, B. and B. Stensaker (2002), "Academic Leadership: Prescriptions, Practices and Paradoxes", *Tertiary Education and Management*, 8, 113.

Barr, N. (2001), *The Welfare State as Piggy Bank: Information Risk, Uncertainty and the Role of the State*, Oxford University Press, Oxford.

Barro, R.J. (2001), "Education and Economic Growth", in J.F. Helliwell (ed.), *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-being: International Symposium Report*, Human Resources Development Canada and OECD.

Barro, R.J. and X. Sala-i-Martin (1995), *Economic Growth*, McGraw-Hill, New York.

Bassanini, A. and S. Scarpetta (2001), "Links between Policy and Growth: Evidence from OECD Countries", OECD Economics Department Working Papers, No. 282, Paris.

Blöndal, S., S. Field, and N. Girouard (2002), "Investment in Human Capital through Upper-Secondary and Tertiary Education", OECD Economic Studies No. 34.

Boarini, R. and H. Strauss (2007), "The Private Internal Rates of Return to Higher Education: New estimates for 21 OECD countries", OECD Economics Department Working Papers, No. 591, Paris.

Borland, J. (2002), "New Estimates of the Private Return to University Education in Australia", Melbourne Institute Working Paper No. 14/02

Brennan, J. and T. Shah (2000), "Quality assessment and institutional change: Experiences from 14 countries", *Higher Education*, 40, 331-349.

Bynner, J., P. Dolton, L. Feinstein, G. Makepeace, L. Malmberg and L. Woods (2003), "Revisiting the Benefits of Higher Education", a report by the Bedford Group for Lifecourse and Statistical Studies, Institute of Education, *www.hefce.ac.uk/Pubs/RDreports/2003/rd05_03/*

Bynner, J. and M. Egerton (2001), "The Wider Benefits of Higher Education", Report by the Institute of Education, University of London, sponsored by the HEFCE and the Smith Institute. *www.hefce.ac.uk/pubs/hefce/2001/01_46.htm*

Castells, M. (2000), *The Rise of the Network Society*, Oxford, Blackwell.

Coaldrake, P. and L. Stedman (1999), "Academic Work in the Twenty-first Century: Changing roles and policies", *Occasional Paper Series*, Higher Education Division, Department of Education, Training and Youth Affairs, Australia.

de la Fuente, A. and R. Domenech. (2000), "Human Capital in Growth Regressions: How Much Difference does Data Quality Make?", OECD Economics Department Working Papers, No. 262, Paris.

de la Fuente, A., and J.F. Jimeno (2005), "The Private and Fiscal returns to Schooling and the Effect of Public Policies on Private Incentives to Invest in Education: A General Framework and Some Results for the EU", CESifo Working Paper No. 1392.

Dee, T.S. (2004), "Are There Civic Returns to Education?", *Journal of Public Economics*, Vol. 88, pp. 1697-1720.

Ehrenberg, R. (2004), "Econometric studies of higher education", *Journal of Econometrics, 121*.

El-Khawas, E. (1998), "Quality Assurance in Higher Education: Recent Progress; Challenges Ahead", The World Bank, Washington, D.C.

European Commission (2005), "Mobilising the brainpower of Europe: enabling universities to make their full contribution to the Lisbon Strategy", Commission of the European Communities, Brussels.

Fernandez Lamarra, N. (2003), "Higher Education, Quality Evaluation and Accreditation in Latin America and MERCOSUR", *European Journal of Education*, 38, 253-269.

Geloso-Grosso, M. (2007), "Developing Capacity in Tertiary Education through Trade Liberalisation and the GATS", in *Cross-Border Tertiary Education: A Way Towards Capacity Development*, OECD and IBRD/The World Bank.

Gemmell, N. (1995), "Endogenous Growth, the Solow Model and Human Capital", *Economics of Planning*, No. 28, pp. 169-183.

Gemmell, N. (1996), "Evaluating the Impacts of Human Capital Stocks and Accumulation on Economic Growth: Some New Evidence", *Oxford Bulletin of Economics and Statistics*, No. 58, pp. 9-28.

Gibbons, M. (1998), *Higher Education Relevance in the 21st Century*, Washington D.C., The World Bank.

Gittleman, M. and E.N. Wolff (1995), "R&D Activity and Cross-country Growth Comparisons", *Cambridge Journal of Economics*, Vol. 19, pp. 189-207.

Goedegebuure, L., F. Kaiser, P. Maassen, L. Meek, F. Van Vught and E. De Weert (Eds.) (1994), *Higher Education Policy, an International Comparative Perspective*, London, Pergamon.

Grossman, M. (2006), "Education and Nonmarket Outcomes", Chapter 10 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 1, Elsevier, Amsterdam.

Grubb, N. (2003), "The Roles of Tertiary Colleges and Institutes: Trade-offs in Restructuring Postsecondary Education", Paper prepared during a sabbatical period at the Directorate for Education, Paris (available from *www.oecd.org/edu/tertiary/review*).

Gumport, P. J., Ianozzi, M., Shaman, S. and Zemsky, R. (1997), "Trends in United States: Higher Education from Massification to Post Massification", National Centre for Postsecondary Education.

Hanushek, E.A. and D.D. Kimko (2000), "Schooling, Labor Force Quality, and the Growth of Nations", *The American Economic Review*, Vol. 90, No. 5, December.

Hawkins, B. L. B., P. (Ed.) (1998), *The Mirage of Continuity: Reconfiguring Academic Information Resources for the 21st Century*, Washington DC, Council on Information and Library Resources.

Heckman, J. J., L. J. Lochner and P. E. Todd (2006), "Earnings Functions, Rates of Return and Treatment Effects: The Mincer Equation and Beyond", Chapter 7 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 1, Elsevier, Amsterdam.

Hodgkinson, V. and M. Weitzman (1988), *Giving and Volunteering in the United States: Findings from a National Survey, 1988*, Edition, Washington, D.C.: Independent Sector.

Huisman, J. and M. van der Wende (2004), "The EU and Bologna: are supra- and international initiatives threatening domestic agendas?" *European Journal of Education*, 39, 349-357.

Jacobs, B. and F. van der Ploeg (2005), "Guide to Reform of Higher Education: A European Perspective", *Centre for Economic Policy Research Discussion Paper Series N.5327*, available from *www.cepr.org/pubs/dps/DP5327.asp*

Johnstone D.B 1998, Worldwide Reforms in the Financing and Management of Higher Education. Center for Comparative and Global Studies in Education, State University of New York, Buffalo, available from www.gse.buffalo.edu/org/IntHigherEdFinance/publReformsFinMan.html

Knight, J. (2003), *GATS, Trade and Higher Education. Perspective 2003 - Where are we?* London, The Observatory on Borderless Higher education.

Krueger, A. and M. Lindahl, M. (1999), "Education for Growth in Sweden and the World", NBER Working Paper No. 7190.

Kwiek, M. (2001), "Globalization and Higher Education", *Higher Education in Europe*, 26, 27-38.

Kyvik, S. (2004), "Structural Changes in Higher Education Systems in Western Europe", *Higher Education in Europe*, 29, 393-409.

Lange, F. and R. Topel (2006), "The Social Value of Education and Human Capital", Chapter 8 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 1, Elsevier, Amsterdam.

Lisbon European Council, Presidency Conclusions 23-24 March 2000 *www.europarl.europa.eu/summits/lis1_en.htm*

McMahon, W. W. (1984), "Why Families Invest in Education", in S. Sudman and M. Spaeth (Eds.), *The Collection and Analysis of Economic and Consumer Data: Essays in Honor of Robert Ferber*, Urbana, IL: University of Illinois Press.

McMahon, W. W. (2004), "The Social and External Benefits of Education" in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Mongkhonvanit, P. and S.L. Emery (2003), "Asian Perspectives on European Higher Education", *Higher Education in Europe*, 28, 51-56.

Nonneman, W. and P. Vanhoudt (1996), "A Further Augmentation of the Solow Model and the Empirics of Economic Growth for OECD Countries", *Quarterly Journal of Economics*, No. 111, pp. 943-953.

NCES (1995), *The Condition of Education 1995*, National Center for Education Statistics, Washington, D.C.: U.S. Department of Education.

OECD (2000a), "Links between Policy and Growth: Cross-country evidence", draft paper for Working Party 1, Economics Department.

OECD (2000b), *Education at a Glance: OECD Indicators 2000*, OECD, Paris.

OECD (2001a), *The Well-Being of Nations: The Role of Human and Social Capital*, CERI, OECD, Paris.

OECD (2001b), *Education at a Glance: OECD Indicators 2001*, OECD, Paris.

OECD (2002), *Education at a Glance: OECD Indicators 2002*, OECD, Paris.

OECD (2004a), *OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications*. Paris: OECD.

OECD (2004b), *Internationalisation and Trade in Higher Education: Opportunities and Challenges*, OECD, Paris.

OECD (2005a), "Alternatives to Universities Revisited", in *Education Policy Analysis 2004*, Chapter 1, Paris.

OECD (2005b), "*E-learning in Tertiary Education: Where do We Stand*?", Centre for Educational Research and Innovation (CERI), Paris.

OECD (2006a), *Measuring the Effects of Education on Health and Civic Engagement: Proceedings of the Copenhagen Symposium*, Paris.

OECD (2006b), "*Live Longer, Work Longer*", Paris.

OECD (2006c), *Education at a Glance: OECD Indicators 2006*, OECD, Paris.

OECD (2007a), *Education at a Glance: OECD Indicators 2007*, OECD, Paris.

OECD (2007b), *Understanding the Social Outcomes of Learning*, Centre for Educational Research and Innovation (CERI), OECD, Paris.

OECD (2007c), *OECD Factbook 2007: Economic, Environmental and Social Statistics*, Paris.

OECD (2008a), *Higher Education 2030: Globalisation*, Centre for Educational Research and Innovation (CERI), OECD, Paris (forthcoming).

OECD (2008b), *Higher Education 2030: Technology*, Centre for Educational Research and Innovation (CERI), OECD, Paris (forthcoming).

OECD (2008c), *Higher Education 2030: Demography*, Centre for Educational Research and Innovation (CERI), OECD, Paris (forthcoming).

Oliveira Martins, J., R. Boarini, H. Strauss, C. de la Maisonneuve and C. Saadi (2007), "The Policy Determinants of Investment in Higher Education", OECD Economics Department Working Papers, No. 576, Paris.

Oman, C. (1996), "The Policy Challenges of Globalisation and Regionalisation", Policy Brief N.11, OECD Development Centre, OECD, Paris.

Pascarella, E. and P. Terenzini (2005), *How College Affects Students. A Third Decade of Research* (Vol. 2), San Francisco, CA: Jossey-Bass.

Peracchi, F. (2006), "Educational wage *premia* and the distribution of earnings: an international perspective", Chapter 5 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 1, Elsevier, Amsterdam.

Prado Yepes, C. de (2006), "World Regionalization of Higher Education: Policy Proposals for International Organizations", *Higher Education Policy*, 19, 111-128.

Psacharopoulos, G. (1994), "Returns to Investment in Education: A Global Update", World Development 22 (9), pp. 1325-1343.

Psacharapoulos, G. and H. Patrinos (2004a), "Returns to Investment in Education: A Further Update", *Education Economics*, Vol. 12, No. 2, August.

Psacharapoulos, G. and H. Patrinos (2004b), "Human Capital and Rates of Return", in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Rosen, H. S. (2005), *Public Finance*, 7th edition, McGraw-Hill, Chicago.

Salmi, J. (2000), Tertiary Education in the Twenty-First Century: Challenges and Opportunities, *LCSHD Paper Series*, The World Bank, Washington, D.C.

Sauve, P. (2002), "Trade, Education and the GATS: What's In, What's Out, What's All the Fuss About?", *OECD/US Forum on Trade in Educational Services.* Washington D.C.

Schofer, E. and J.W. Meyer (2005), "The Worldwide Expansion of Higher Education in the Twentieth Century", *American Sociological Review,* 70, 898.

Schuetze, H. G. and Slowey, M. (2002), "Participation and exclusion: A comparative analysis of non-traditional students and lifelong learners in higher education" *Higher Education,* 44, 309.

Stark, A. (2006), "Which Fields Pay, Which Fields Don't? An Examination of the Returns to University Education in Canada by Detailed Field of Study", Economic Analysis and Policy Division, Department of Finance, Canada, mimeo.

Stevens, P. and M. Weale (2004), "Education and Economic Growth" in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Strauss, H. and C. de la Maisonneuve (2007), "The Wage *Premium* on Tertiary Education: Micro-data Evidence for 21 OECD countries", OECD Economics Department Working Papers, No. 589, Paris.

Teixeira, P. and Amaral, A. (2001), "Private Higher Education and Diversity: An Exploratory Survey", *Higher Education Quarterly,* 55, 359.

Temple, J. (1999), "The New Growth Evidence", *Journal of Economic Literature,* 37, 112-156.

Temple, J. (2001), "Growth Effects of Education and Social Capital in the OECD", in J.F. Helliwell (ed.), *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-being: International Symposium Report*, Human Resources Development Canada and OECD.

Thorpe, M. (2005), "The Impact of ICT on Lifelong Learning" in C. V. McIntosh, Zeynep (Ed.) *Perspectives on Distance Education: Lifelong Learning and Distance Higher Education.* UNESCO/COL.

UNESCO (2006), *Global Education Digest*, Montreal, UNESCO Institute for Statistics.

Vught, F. A. van and D.F. Westerheijden (1994), "Towards a general model of quality assessment in higher education", *Higher Education*, 28, 355.

Wende, M. C. van der (2003), "Globalisation and Access to Higher Education", *Journal of Studies in International Education*, 7, 193-206.

Wolf, A. (2004), "Education and Economic Performance: Simplistic Theories and their Policy Consequences", *Oxford Review of Economic Policy*, Vol. 20, No. 2, 315-333.

Wolfe, B. and R. Haveman (2001), "Accounting for the social and non-market benefits of education" in J. Helliwell (ed.), *The Contribution of Human and Social Capital to Sustained Economic Growth and Well Being*, OECD, Paris.

# 3. Setting the Right Course: Steering Tertiary Education

## 3.1 Introduction

When the OECD was formed in 1961, tertiary education was not a leading concern of most member governments. Tertiary education, which was typically synonymous with university education, was not seen to be central to the well-being of most citizens or to the fortunes of national economies. Rather, it was a means of training members of learned professions, scholars, and civil servants.

The scope and significance of tertiary education have changed dramatically since then. And, as the preceding chapter has shown, changes continue. Tertiary education has expanded in many OECD member nations to encompass half or more of all young adults. And it has simultaneously become much more diverse in its providers, in its learners, in the range of skills and training it provides, and in connections to the commercial life of knowledge-based economies. Public officials throughout OECD member nations have come to hold ambitious goals for tertiary education, viewing it both as a means to foster economic growth – through its capacity to create a highly skilled workforce and research that underpins a knowledge-based economy – and as a principal instrument for the fostering of social cohesion, widely dispersing the benefits of economic growth. These ambitious goals create a challenge previously unknown to governments: how can we best ensure that capabilities of tertiary education are joined to wider public purposes? Many governments have responded to this challenge by making far-reaching changes in the means by which they exercise authority vis-à-vis tertiary education institutions (TEIs), and in the structure of tertiary education systems.

In this chapter we examine countries' approaches to system governance, the prevailing trends and the forces driving change. The chapter begins by reviewing concepts and dimensions for analyzing governance systems of tertiary education. We then propose current patterns of the way in which states steer the activities of tertiary institutions. This is followed by an investigation on how states structure tertiary systems, paying particular attention to policy choices with respect to differentiation. The chapter further examines system linkages (within tertiary education and between tertiary education and other sectors), the relation between system level and institutional governance, and the way tertiary education policy is developed. The chapter concludes with a set of policy options for countries to consider.

## 3.2 Governance of tertiary education: concepts and dimensions

### *3.2.1 The nature of governance systems in tertiary education*

A general view of the nature of governance systems in tertiary education entails a definition of the word governance itself as well as a typology of governance systems in tertiary education.

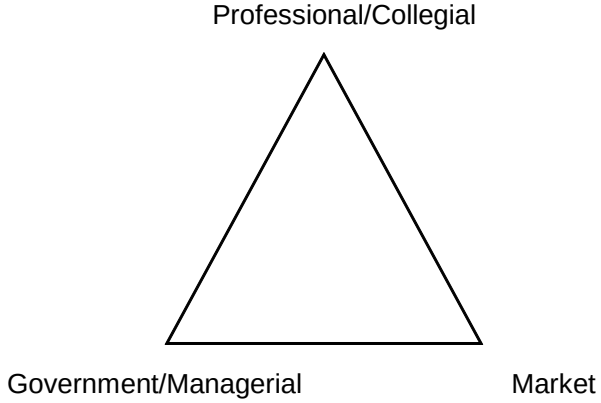
*Definition of governance*

A variety of definitions of "governance" in the context of tertiary education can be found in the literature (Goedegebuure and Hayden, 2007). Neave (2006) defines it as being 'a conceptual shorthand for the way higher education systems and institutions are organised and managed". Toma (2007) defines governance as being: 'both as simple and as complicated as responding to the question: who makes what decisions?' In this chapter, "governance" encompasses the structures, relationships and processes through which, at both national and institutional levels, policies for tertiary education are developed, implemented and reviewed. Governance comprises a complex web including the legislative framework, the characteristics of the institutions and how they relate to the whole system, how money is allocated to institutions and how they are accountable for the way it is spent, as well as less formal structures and relationships which steer and influence behaviour (OECD, 2003).

*Proposed typologies of governance systems in tertiary education*

The analysis of governance systems in higher education has long since been on the research agenda. There have been a large number of attempts to develop useful typologies of governance systems in order to deal with inter-country variation and the complexity of national governance arrangements (Braun and Merrien, 1999). The turning point in the higher education literature is the often cited work of Clark (1983), among the first to establish a typology of governance systems. He proposed that co-ordination of higher education is organised in a triangular space consisting of the three dimensions of government (from highly centralised State authority to less State intervention), market (with different degrees of influence of markets) and academic oligarchy (with varying degrees of influence of the academic profession).[26]

**Figure 3.1: Clark's triangle of co-ordination**




Source: Clark, 1983.

Another often cited typology of governance is that of van Vught (1989). He reduces Clark's triangle of co-ordination to a two-dimensional relationship between the State and higher education institutions. He proposes to differentiate between a 'State control' model

26 See discussion on the application of Clark's triangle in Goedegebuure *et al.* (1993).

and a 'State supervising' model, summarised as follows by Gornitzka and Maassen (2000):

- The 'State control' model (also called 'rational planning' model) is characterised by strong confidence in the capabilities of governmental actors and agencies to acquire comprehensive and true knowledge and to take the best decisions. Also, these governmental actors try to steer an object by using stringent rules and extensive control mechanisms. They see themselves as omniscient and omnipotent actors able to steer a part of society according to their own objectives.
- In the 'State supervising' model (also called 'self-regulation' model) monitoring and feedback are emphasised. Crucial to this is the idea that a decision-maker should only pay attention to a small set of critical variables that should be kept within tolerable ranges. In this model, government is predominantly an actor which watches the rules of the game played by relatively autonomous players and which changes the rules when the game is no longer able to lead to satisfactory results.

More recently, Braun and Merrien (1999) proposed a governance typology which accounts for the administrative strategies of the "New Public Management" (NPM) or the "new managerialism", which have characterised reforms in the governance of public services in OECD countries in the last two decades (see Section 3.6 and Chapter 5). They arrive at a 'cube of governance' in higher education which mixes government models proposed by Clark and van Vught and the new managerialism model. They distinguish between a tight and a loose administrative control of universities by policy-makers (procedural dimension)[27] and a tight and loose goal-setting capacity of government in matters of education and research (substantive dimension)[28]. The third dimension relates to the 'political culture' of countries concerning the role that higher education systems should play as part of the public service system (from 'non-utilitarian culture' to 'utilitarian culture').[29] Braun and Merrien argue that "Almost everywhere notions like management by objectives, contractualisation, service-orientation, efficiency, institutional autonomy, steering at a distance etc. now belong to the daily discourse on reforms of the organisation of research and education in universities" (Braun, 1999).

Enders (2004) reviews higher education governance models, highlighting their increased complexity. He discusses a number of dimensions which call for the extension of conceptual models of higher education governance:

- *The existence of networks*. Enders (2004) indicates that 'governance' is "now often used to indicate a new mode of governing that is distinct from the hierarchical control model, a more cooperative mode where the State and non-

27 It includes financial and management capacities of universities as well as aspects of personnel policy (*e.g.* setting of salaries; creation and suppression of posts) and student policy (*e.g.* selection of students; level of tuition fees).

28 It includes freedom to establish courses, choose the content and methods of courses and research, define organisational goals vis-à-vis environment; choose the personnel and students according to organisational and academic goals and standards; or choice of research topics.

29 Braun (1999) argues that "It is well known that we find a basic difference in the 'European way' of many countries which share the view that universities are cultural and non-economic institutions contributing to universal science on the one hand and the 'American utilitarianism' which expects useful services of their public institutions on the other hand".

State actors participate in mixed networks". Governance of higher education institutions is also strongly influenced by informal networks, collegial agreements and more process-oriented decision-making structures (Gornitzka *et al.*, 2005).

- *The significance of global forces*. Enders (2004) reveals that the "theory of political governance has so far dealt with political systems that have a clear identity, a clear boundary, and a defined membership" and is incapable of accounting for the influence of globalisation aspects such as the European dimension which is becoming much more integrated into the mainstream national-level higher education policy (see CHEPS, 2006, for an account of the growing influence of the European Commission on national higher education policy). Marginson and Rhoades (2002) propose a "glonacal agency heuristic" to conceptualise and shape comparative higher education research with regard to globalisation. Their approach points to three intersecting planes of existence, emphasising the simultaneous significance of global, national, and local dimensions and forces. Their approach combines the meaning of "agency" as an established organisation with its meaning as individual or collective action.
- *The micro-level of academic work and life*. Enders (2004) highlights the importance of assessing the impact of changing modes of coordination in higher education on the academic workplace. Ferlie *et al.* (2007) also argue that more attention is to be paid to the relationships between the State and the academic profession given that understanding co-ordination within higher education systems cannot be reduced solely to State-institution relationships. They point out, for instance, that in many European countries, academic staff is directly employed by the State.

It is also important to bear in mind that changes in the governance of tertiary education are taking place in the context of fundamental changes in the governance and management of general public services. Tertiary education reform is tied into more general public sector reform (see OECD, 2006a).

Another complexity is the multiplication of actors in tertiary education governance. Some responsibilities are delegated to intermediate bodies such as research councils or quality assurance agencies. Other government levels (regional, local) and areas (*e.g.* Ministry of economic affairs, industry, labour) have reinforced their role in tertiary education. Further, external stakeholders (industry, business sector, employers, unions) are being increasingly included in consultative and decision-making processes within tertiary education (see Section 3.7). In this respect the State's role becomes one of a network manager ('steering through networks') and new regimes of governance emerge: we now see a more multi-actor, multi-level governance framework emerging in a number of countries (CHEPS, 2006).

### *3.2.2 The challenge of serving public interest*

In the governance of tertiary education, the ultimate objective of educational authorities as the guardians of public interest is to ensure that public resources are efficiently spent by TEIs to societal purposes. There is the expectation that institutions are to contribute to the economic and social goals of countries. This is a mixture of many demands, such as: quality of teaching and learning defined in new ways including greater relevance to learner and labour market needs; research and development feeding into

business and community development; contributing to internationalisation and international competitiveness.

There is a tension between the pursuit of knowledge generation as a self-determined institutional objective and the statement of national priority as defined in the aims and goals of the tertiary system. The objective, from a governance point of view, is then to reconcile the priorities of the individual institutions and the broader social and economic objectives of countries. This entails determining how far the former contributes to the latter as well as clarifying the degree of latitude the institution has in pursuing its own self-established objectives. The governance challenge is then to achieve the appropriate balance between the governmental steering and institutional autonomy in the pursuit of a better alignment between institutional initiative and the nation's economic and social development goals.

The design and functioning of governance arrangements and processes for tertiary education at both national and institutional levels are vital determinants of the effectiveness of the tertiary education system and of its capacity to contribute to national development. The objective is to put arrangements in place which are effective and efficient in addressing national economic and societal needs. They should also support the traditional and fundamental objectives of tertiary education in promoting scholarship through the creation, diffusion and maintenance of knowledge.

### *3.2.3 The roles of the State*

It is recognised that the State has a key role in promoting the best possible outcomes in tertiary education, for instance by ensuring appropriate levels of competition between TEIs as a stimulus for better performance, and by ensuring that the tertiary education system is outward-looking, nationally and internationally. By and large, the responsibility of the State is to set national goals, define the rules of the game and the regulatory framework within which the different actors in the system can perform most effectively.

#### *Setting the goals and strategic aims*

Typically, a key priority for governments is to provide a clear articulation of the nation's expectations of institutions. This is as a rule associated with the setting of goals for the sector and the formulation of a clear vision for the long-term development of the tertiary system. Most countries in the OECD area devise statements of strategic aims for tertiary education, with marked differences across countries.

For example, in New Zealand, the 2002-2007 Tertiary Education Strategy (TES) was "a high-level strategy that articulates the key goals for New Zealand's tertiary education system and defines how the system will help give effect to the government's vision and goals for New Zealand" (Ministry of Education, New Zealand, 2002). Six 'sub-strategies' comprised the 2002-2007 TES: strengthening of the system capability and quality; contributing to achieving the Māori development aspirations; raising foundation skills to allow participation in the knowledge society; developing the skills needed for a knowledge society; educating for Pacific people's development and success; and strengthening the research knowledge creation and uptake function.

In Mexico, at the federal level and for the period 2001-2006, the key reference point for tertiary education planning was the National Education Programme 2001-2006 (*Programa Nacional de Educación* - PRONAE). It set out strategic and specific

objectives and policies, action programmes and benchmarks for the tertiary education system. For the 2001-2006 period the strategic objectives proposed by PRONAE were: (a) Expanding coverage with equity; (b) High quality education; and (c) Better integration, co-ordination and management of the tertiary education system.

In Norway, in 2001, government specific objectives for tertiary education were defined on a White Paper. These were: *(i)* contribute to using the capacities and abilities of the population in such a way that consideration is taken both of the interests of the individuals and of the country's need for a highly educated work force; *(ii)* improve the quality of tertiary teaching and learning and research; *(iii)* ensure that applicants to TEIs are given equal treatment; *(iv)* promote conditions at universities and colleges that are favourable to the development and transmission of new knowledge; *(v)* use the resources of the sector more effectively; *(vi)* reduce the time actually spent by students before graduation, so that the actual length of study periods corresponds more closely to the formal requirements; and *(vii)* encourage increased international co-operation in tertiary education and research.

Most countries govern tertiary education through legislative frameworks. For example, in Sweden, activities of TEIs are governed by the Higher Education Act and the Higher Education Ordinance. The Act lays down broad objectives for Swedish higher education, which are supplemented by programme-specific goals in a Degree Ordinance. Policy objectives are also elaborated in government Bills and proposals. The annual appropriation directives specify the government's expectations of the tertiary education sector during a specific period, and in educational directives the government lays down certain specific objectives and required results for each individual institution. For example, the educational directives specify quantitative targets over a four-year period, and planning parameters for the subsequent four years. The national goals and objectives for tertiary education are deliberately formulated on a general level. The main responsibility for interpreting them, balancing the various goals against each other, and transforming them into concrete measures, lies with the individual institutions. However, the institutions are required to report back to the government on their results.

*Regulating tertiary education*

An important responsibility of the State is to create a regulatory environment that is aligned with the goals and aims for the sector and provides opportunities for institutions to meet the expectations of society. The purposes of regulation can be varied. According to King (2007), "they range from market control to market enhancement, and include, especially in the public services, accountability, enhancement of quality and standards, and social or national steerage (such as seeking increased consumer or lay influence in decision-making, risk management, enhancing social access to higher education, or greater public-private alliances for service delivery)". Regulation in tertiary education includes:

- Defining lines of authority and accountability;
- Defining missions (divide responsibilities among main actors, including intermediate agencies and the different types of institutions);
- Establishing work processes (*e.g.* defining rules for the establishment of new institutions, collecting and disseminating information, prescribing the framework for budgeting, quality assurance, legislation on intellectual property rights) and

- Facilitating linkages
  - Within tertiary education (*e.g.* credit transfer and collaboration within tertiary education).
  - Between national system and tertiary systems abroad.
  - Between tertiary education and other sectors (*e.g.* school system, working life, surrounding regions and communities).

Regulations are embedded in virtually all tools available to government to influence or constrain behaviour of institutions, students, and other actors of tertiary education systems. The most common regulation tools or levels are (OECD, 2006a):

- Planning and policy leadership;
- Structure and governance: Who gets to make what decisions at what level?
- Financing, resource allocation, and subsidy;
- Incentives (monetary and non-monetary);
- Use of information (*e.g.* communication and reporting);
- Regulatory tools, including laws, ordinances, decrees as well as soft law; and
- Modes and processes of policy implementation.

King (2007) reviews conceptual approaches to regulation and, based on the international experience, concludes that:

- "Command-and-control"[30] regulation tends to be inflexible, can often be excessively hostile to those being regulated and can soon fall adrift in its standards as a result of rapid changes in dynamic industries.
- Self-regulation by a sector association or organisation is often regarded as more likely to attract greater commitment from those being regulated, and such approaches are often more knowledgeably-informed than found in direct State or legal regulation.
- 'Meta" forms of regulation, in which audits of organisations' own regulatory and other procedures are undertaken, are regarded as possessing the advantages of resources efficiency, self-regulatory incorporation and sector sensitivity.
- Forms of 'risk-based' regulation are preferred, in which the regulator's resources are focused on recalcitrants and those with poor track records of regulatory compliance.

Further, a basic characteristic of "good regulation" is the alignment of policy tools (including regulation) to ensure policy coherence. Failure to achieve this alignment can have the effect of nullifying the impact of one policy through the counter-influence of another policy (OECD, 2006a).[31]

30 "Command-and-control" refers to the prescriptive nature of the regulation – the command – supported by the threat of some negative sanction – the control.

31 An example is when a country with a federal system establishes policy directions regarding tertiary education at the national/federal level that are contradicted by the policies and actions at the state or local levels.

*Providing tertiary education*

The State exercises responsibility for the provision of tertiary education. In most countries, the majority of tertiary students are enrolled in TEIs which are either considered State agencies or whose funding is predominantly public.

*Steering tertiary education*

'Steering' can be defined as 'the externally derived instruments and institutional arrangements which seek to govern organisational and academic behaviours within HEIs' (Ferlie *et al.*, 2007). Steering entails the State devising an incentive structure that shapes institutional behaviour (or, more generally, the behaviour of tertiary education actors) towards national policy goals. It is associated with a less interventionist and more 'facilitative' role for the State (which defines the national goals, establishes the incentive structure, and monitors the outcomes) and more discretion for institutions over a greater number of areas.

The strategic steering of tertiary education involves using agreed policy instruments, particularly resource allocation, to promote greater co-ordination and rationalisation, improved quality, efficiency and results. Typical instruments to guide the system from a distance and encourage institutions to adhere to national priorities and objectives are:

- Performance-based funding for teaching and learning activities;
- Targeted funding to achieve explicit objectives (*e.g.* development of partnerships with the surrounding region);
- Competitive research funding;
- Performance evaluation;
- Objectives-based contractual arrangements with institutions;
- Publication of information on institution's performance.

An important implication of steering is that it requires improved human, material and technical capacities within educational authorities for better tertiary education co-ordination, planning, promotion and evaluation. Steering also involves the monitoring of outcomes (see Section 3.2.7).

Intermediate agencies are also becoming increasingly important in the steering of tertiary education. The entity responsible for defining and ensuring responsiveness to the public interest is most often a formal government entity such as a Ministry of Education. But some OECD countries such as Ireland, New Zealand, and the United Kingdom (except Northern Ireland) have established so called "intermediate" or "buffer" agencies such as funding councils or quality assurance agencies to carry out many of the governance functions (*e.g.* the Tertiary Education Commission in New Zealand, the Higher Education Funding Council for England). These agencies typically act as an intermediary between TEIs and governments, allowing for a relationship which aims at avoiding "the hazards of excessive interference by governments in the institutions, especially in funding and internal management, while facilitating the steering of higher education within a policy framework set by governments focused on high level policy issues, rather than the details of administration." (Boland, 2006).

In Sweden, State agencies take on many of the tasks that in other countries rest with government ministries. Swedish ministries are mainly responsible for determining policy

while major reviews and analyses, as well as a number of other tasks, are generally undertaken by the agencies under the authority of the ministries. Examples of agencies include the National Agency for Higher Education (tasks include evaluation and accreditation of institutions; policy analysis; supervision of compliance with laws and regulations), the National Agency for Services to Universities and University Colleges (which provides services to institutions such as co-ordination of admission procedures and procurement support); the Agency for Networks and Co-operation in Higher Education (tasks include the promotion of Internet-based distance tertiary education); and the Agency of Advanced Vocational Education (which co-ordinates the provision of Advanced Vocational Education).

This approach allows the intermediate agencies (or buffer bodies) to recruit, develop and retain staff with the relevant specialised skills and experience, and to provide a degree of organisational continuity which can be useful in promoting change. Intermediate agencies are also, and importantly, seen as means of enhancing the autonomy of TEIs. Some authors (*e.g.* Gornitzka and Maassen, 2000) argue that there is an emerging 'agencification' taking place in a number of countries, in particular in the area of quality assurance.

### *3.2.4 System design*

A crucial part of system governance is the design of the tertiary education system. The structure of tertiary programmes, the extent of differentiation within tertiary education, and the division of functions and tasks among different institutions in a national system are examples of choices education authorities need to make when designing tertiary education systems. Key elements in designing a system of tertiary education are as follows:

- *Components of a programme structure for tertiary education*. These might include short-cycle vocational studies, advanced vocational education, bachelors studies which prepare students for the labour market as well as for further studies, Masters programmes, Doctoral Studies and lifelong learning courses.
- *Fields of knowledge and professional areas covered within the tertiary education system.*
- *Types of institutions and respective roles in the system.* This implies a clear articulation and transparency of the roles of different institutions.
- *A structure that links institution types and individual institutions to each other.* It is key to ensure ways of creating a coherent system of inter-related institutions, one where movements among institutions are rational and articulated.
- *Conditions for institutions to operate, including a minimum scale*.

*The extent of differentiation within the system is a critical policy question*

Diversity - in terms of factors such as types of institutions, study programmes, modes of delivery, student profiles - within tertiary education is a key policy question. In general, policy makers believe that a differentiated or diversified tertiary education system is essential if the needs of a diverse range of learners and the needs of knowledge societies are to be met. Many see increasing diversity as a necessary consequence of the

rapid growth in tertiary education enrolments and the movement of many tertiary education systems from elite to mass systems.

Huisman *et al.* (2007) note that there are few studies that take stock of the level of diversity of tertiary education systems. They propose taking into account the following measurable features to build indices of system diversity: (1) institutional size; (2) form of institutional control; (3) range of disciplines offered; (4) degrees awarded; and (5) modes of study. Two indices are suggested: *(i)* diversity of types of institutions within the system; and *(ii)* diversity of institutions within the same type of institution. Using 1996 data for ten OECD countries, they conclude that in that year, the group of most diverse higher education systems comprised the United Kingdom, Belgium (Flemish Community) and the Netherlands. Sweden, France, Denmark and Australia had the least diverse systems while Finland, Germany and Austria were found to be in the middle of the spectrum.

*There are diverse approaches to differentiation*

The literature proposes three major lines of institutional differentiation: a distinction between universities and non-universities (often of the binary type); a distinction between specialised institutions with few focus areas and larger comprehensive institutions; and finally the co-existence of both public and private sectors of tertiary education.

In some countries, there are distinct institutional types. In the Netherlands, the two principal sectors of tertiary education are the research-intensive universities (the WOs) and the universities of applied science, the *hogescholen* (the HBOs). There are 14 research-intensive universities including the Open University. There are 42 government-funded HBOs. The WOs and HBOs are separated on the basis of a division of labour (the 'binary system') in which the great majority of research functions and capacities are concentrated in the WOs. On the whole HBO graduates are more specifically oriented to local and to occupationally tailored employment. There is a greater emphasis on generalist preparation in WOs. Finland has also established a binary tertiary system with a strong polytechnic sector that enabled the doubling of tertiary education enrolments between 1990 and 2000. The polytechnics are distinguished on the basis of shorter study programmes, a more technically oriented and applied approach, more input into governance from employers and local and regional authorities, and a greater element of localised financing. Tertiary education in Portugal is also characterised by a binary line, between universities and polytechnics. Only universities offer the doctorate while both universities and polytechnics offer first and masters degrees. Polytechnic first degrees "must value particularly training actions targeted at the practice of a professional activity, ensuring a component of application of the knowledge acquired to the actual activities of the respective professional profile", according to Portuguese legislation. At the masters degree level polytechnic degrees must "ensure predominantly that the student acquires a professional specialisation" in contrast to university degrees that must "ensure that the student acquires an academic specialisation resorting to research, innovation or expansion of professional competences".

In other countries the degree of institutional differentiation is considerably greater. In Mexico, one of the most important features of the system is institutional heterogeneity and its dynamic relationship with the government's co-ordination, planning and regulation. A number of different public subsystems, very different in size, nature and composition co-exist, including federal universities, state universities, technological institutes, technological universities, polytechnic universities, intercultural universities,

and teacher education tertiary institutions. Similarly, in Japan, the expansion of tertiary education has been accompanied by increasing diversity in the mission and purposes of tertiary institutions. Nowadays, the tertiary sector extends well beyond the universities themselves: *Junior colleges* typically offer two-year sub-degree qualifications within a baccalaureate four-year bachelors degree framework; *Colleges of Technology*, or *kosen*, are institutions offering high-level vocational qualifications through teaching and related research; *Professional training colleges* offer practical vocational and specialised technical education aiming to foster abilities required for vocational or daily life, or provide general education; *Graduate schools* conduct academic research, in particular basic research, and train researchers and professionals with advanced skills; and *Professional graduate schools* are oriented towards high-level graduate entry to key professions – for example, law, business studies, etc. The cultivation of diversity is now a stated policy aim. For example, in 2005 the Central Council for Education in its report, *A Vision for the Future of Higher Education in Japan* stated that:

> *"for the universal stage of tertiary education, it is necessary for each institution to clarify its own individuality and distinctiveness. Universities, junior colleges, colleges of technology and professional training colleges must all put education and research into operation that are fully based on each position and expected role / function and each institution must clarify its own individuality and distinctiveness. In particular, even for the same type of institution, each institution should clarify their own functions and goals out of a wide range of functions and goals based on the institution's own choices".*

Yet in other countries there is no formal institutional differentiation between, for example, research-intensive universities, regionally-oriented universities, or professionally-orientated teaching universities *etc.* but there are clearly differences in profile, capacity and mission that emerge across a unitary university sector. This is the case, for instance, in Australia and the United Kingdom, in which tertiary education is almost entirely dominated by universities, with few other types of institutions. In Sweden, where a formal binary system was abolished in 1977, institutions range from large "classic" broad universities to specialised institutions of different size in, for example, teacher education, the fine arts or agricultural sciences. However, within the formally unitary system, the distinction between university and university college remains.

Finally, in some countries, while some formal differentiation has been introduced, the tertiary system remains dominated by public university sectors. For instance, in the Czech Republic, the non-university and tertiary professional institutions each account for less than 10% of enrolments. Besides, the university sector is formally undifferentiated, driven by a traditional Humboldtian vision, highly autonomous, self-governing and characterised by strenuous academic career requirements. Similarly, in Poland, although the system is diverse in the formal sense (in that it contains vocational and private TEIs in addition to universities and other academic institutions), there is a lack of true diversity of mission and values, according to the team which reviewed Poland in the context of the project. International experience suggests that systems characterised by strong academic norms and values, limited influence from external stakeholders and uniform policy/funding environments tend to display low levels of diversity as institutions all favour activities perceived to carry the highest prestige and rewards.

*Private tertiary education takes different forms*

Private tertiary education takes very different forms in different countries. There are distinguished examples around the world of high-quality private institutions, making the most of their freedom to innovate and to excel. At the other extreme there are also in some countries private institutions which act as a safety valve to absorb excess demand at the lower end of the market, but with little regard for quality and small benefit to the students who attend them.

In Japan there is a very high proportion of private institutions and students therein. Over 90% of junior colleges and professional training colleges are private institutions, as are nearly 78% of universities. In terms of student numbers this means that nearly 80% of under-graduates are enrolled in private institutions. Korea offers a similar picture. About 85% of universities are private as well as over 90% of junior colleges. In China, a marked trend has been the recent emergence of privately-run institutions – "*minban*" – whose numbers are increasing substantially, from 20 in 1997 to 226 in 2004. These include both for-profit and not-for-profit institutions. Many are established and controlled by affiliated public-sector institutions, providing the latter with a useful income stream.

By contrast, in New Zealand, private institutions (called private training establishments) predominantly operate in niche areas, by and large are small to very small institutions – with some noticeable exceptions – and number close to 900. While this figure represents over 90% of TEIs in New Zealand, private training establishments enrol only about 15% of tertiary students.[32] In other countries, the presence of the private sector is small (*e.g* Spain, Sweden), non-existent (*e.g.* Finland) or not allowed (*e.g.* Greece).

The explosive growth of private tertiary institutions in some countries has raised concerns about the quality of the provision in some instances. This exposes the key role for educational authorities in regulating private participation in tertiary education: ensuring the quality of the provision and making sure that private providers meet legal, financial, capacity and programme offering requirements. A tertiary education market, just as any other public goods market, can only function well under clear rules which guide competition toward social ends, assure transparency and promote quality together with the rights of students (Brunner, 2006).

*Scale for operation and mergers*

Scale for operation is an important consideration in ensuring that institutions provide high quality education for their students and that resources are efficiently allocated, although policy decisions need to take account of, for instance, the importance of the regional dimension of tertiary education policy. In practically all countries there are cases of fairly small institutions, especially those located in non-urban areas. These might present a number of limitations. They might offer programmes in a restricted number of areas and rely often on academic staff whose primary employment is with an institution located in an urban area. Their curricula might also concentrate on public employment areas (*e.g.* teaching, nursing, social workers) while options in study areas more related to industry might be more limited. In some cases, the small size might imply that they need to recruit and retain staff to teach specialised subjects which would, in a larger multi-faculty university, be provided by staff from other faculties. Mergers are a common

32 These figures consider New Zealand's broader definition of tertiary education as any post-secondary education.

approach to reinforce the operational capacity of institutions, which some countries have used. In Norway, the 26 university colleges were formed in 1994 through mergers of 98 existing colleges offering mainly teacher training, nurse training, and general engineering to bachelor's degree level (Kyvik, 2002). In the Netherlands, mergers between research-intensive universities and universities of applied science (*hogescholen*) have become a chief mechanism for creating flexibility and sustaining growth (Goedegebuure, 1989). Australia and the United Kingdom have also used mergers as key elements in major restructuring efforts to build larger and more comprehensive institutions (Harman and Harman, 2003).

Harman and Harman (2003) review the international evidence with institutional mergers, which they define as "the combination of two or more separate organisations, with overall management control coming under a single governing body and single chief executive". They identify, as particularly important drivers for mergers in higher education systems, pressures on governments to achieve:

- increased efficiency and effectiveness, especially to cope with rapid and substantial increases in enrolments and additional responsibilities for higher education institutions;
- action to deal with problems of institutional fragmentation and nonviable institutions;
- improved student access and greater differentiation in course offerings to cater for more diverse student populations; and
- increased levels of government control over the overall direction of the higher education systems, especially to ensure that institutions more directly serve national and regional economic and social objectives (Harman and Harman, 2003).

They also note that mergers have also been used by individual institutions to address financial problems and external threats particularly those related to falling student demand and competition. In their review Harman and Harman (2003) offer a number of lessons from the international experience with mergers, including:

- Voluntary mergers generally work better than compulsory mergers, often triggered by external threats or some degree of government incentive, pressure or direction. Ideally all participating institutions should have some wins in merger negotiations.
- Mergers based on 'unitary models' are usually harder to achieve than 'federal models'[33] as they require institutions giving up more autonomy and blending of cultures but in the longer run work better in developing academic coherence and new institutional loyalty.
- Educational authorities can play constructive support roles in merger planning and implementation through: articulation of merger goals and rationale; provision of advice, support and guidance to participating institutions; provision of funding

[33] In a 'federal model', specified responsibilities usually remain with participating institutions, with an overarching or central body taking on other agreed responsibilities. Within the 'unitary model', former participating institutions are not recognised as such and there is a single governing body, a single Chief Executive Officer and a single set of structures for governance (Harman and Harman, 2003).

incentives (such as grants to cover special merger costs and staff redundancies); and clarification of issues about staffing and salary levels.

- The chances of success will be enhanced if there is a strongly held shared vision of possible advantages and likely threats. Merger negotiations need strong, effective and creative leadership with sensitivity to cultural factors.
- Of great importance is the need to generate staff, student and community support for proposed mergers. This includes addressing issues of staff employment and the ability of students to complete the courses in which they are enrolled.
- Generally mergers work best if institutions that have agreed to merge can move as quickly as possible to merger implementation.

Finally, Harman and Harman (2003) stress that mergers are "by no means the universal panacea to deal with problems of systemic fragmentation, course duplication and non-viable institutions. Neither are they the sole policy levers available for system restructuring efforts." They conclude that "experience across national higher education systems demonstrates that no single set of restructuring and collaboration/merger solution suits all situations." Box 3.1 describes mergers in the Russian Federation with the creation of 'National Universities'.

**Box 3.1. Mergers in the Russian Federation with the creation of *National Universities***

In the Russian Federation, the government is strengthening the capability of a number of national universities by merging existing institutions, as part of broader reforms to improve tertiary education. This initiative, in the context of the Priority national project 'Education', aims at improving the ability of institutions to contribute to the social and economic development of the regions in which they are located.

The first national universities are being created in Krasnoyarsk (Siberia National University, which results from the merger of Krasnoyarsk State University, Krasnoyarsk State University of Non-Ferrous Metals and Gold, Krasnoyarsk State Technical University and Krasnoyarsk State Academy of Architecture and Construction) and in Rostov-on-Don (South National University, the merger of Rostov-on-Don State University, Rostov-on-Don State Pedagogical University, Rostov-on-Don State Academy of Architecture and Arts, and Taganrog State Radio Engineering University).

The merger process relies on a number of features: *(i)* the close partnership with local business communities and regional authorities; *(ii)* Plans to expand the autonomy of institutions, including possibly their acquisition of corporation status; and *(iii)* the participation of local business representatives in the governing bodies of national universities.

### *3.2.5 Level of institutional autonomy*

This section outlines the nature and dimensions of institutional autonomy, a key factor in the governance of systems of tertiary education.

*The nature of institutional autonomy*

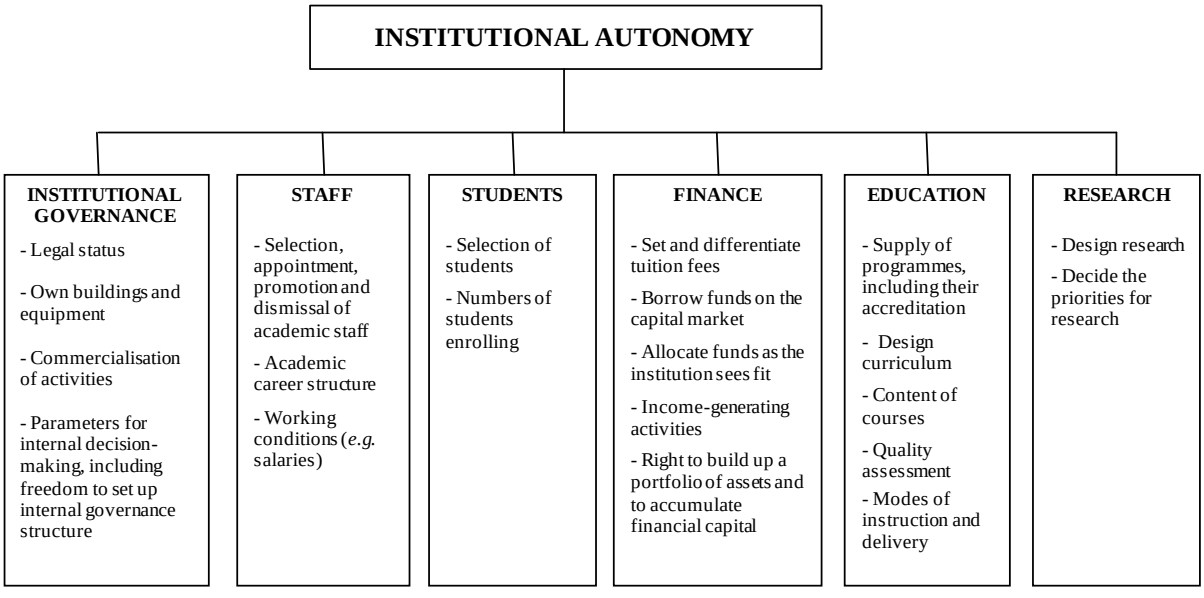
"Institutional autonomy is most commonly thought of as the degree of freedom the university has to steer itself, however, this common conception does not necessarily make the task of defining the term easier" (Askling *et al.* 1999). Mora (2001) highlights that "university autonomy cannot be considered as synonymous of collegiality". He defines autonomy as the "right of the institution, not of its employees, to set its own objectives and manage its own affairs without interference from the State". Salter and Tapper (1995) argue that an analysis of autonomy should make a distinction between the autonomy of

the individual institutions and that of their academic staff. The argument is that, in the past decade, the link between institutional and individual autonomy within the British university system has been broken. A decline in the autonomy of the academics has been matched by an actual enhancement of the autonomy of the universities as institutions.

Berdahl (1990) proposed to distinguish between two types of autonomy: procedural and substantive. "Substantive autonomy is the power of the university or college in its corporate form to determine its own goals and programmes – if you will, the what of academe. Procedural autonomy is the power of the university or college in its corporate form to determine the means by which its goals and programmes will be pursued – the how of academe" (Berdahl, 1990). In practical terms, substantive autonomy refers to the authority of institutions to determine academic and research policy such as standards, curriculum, programme offerings, research areas, staff policy, and awarding degrees. Procedural autonomy refers to the authority of institutions in essentially non-academic areas such as budgeting, financial management, or non-academic staff. To some extent, McDaniel (1996) incorporated Berdahl's approach with "his distinction of 'institutional management' (procedural) and 'academic affairs' (substantial)" (Braun and Merrien, 1999). Furthermore, McNay (1999) developed a model "depending on the degree of control over policy and of practice" that can be linked to procedural and substantive autonomy respectively.

Figure 3.2 provides an overview of the different aspects typically associated with institutional autonomy.

**Figure 3.2. Aspects of institutional autonomy**




In some countries 'autonomy' has a different significance because authority has been delegated to institutions' organisational units (faculties) more than to the institution. For instance, in Poland, in the largest public institutions, the autonomous management of funds, including public subsidies, is often the responsibility of faculties. These can raise their own funds and use them for their own development. This decentralisation of financial management within institutions might have some negative implications, since it

often leads to disputes between the central administration and faculties and is likely to hinder the strategic development of institutions (*e.g.* creation/closure of organisational units, cross-faculty collaboration). In general, the distribution of decision-making responsibilities and the degree of (internal) institutional fragmentation are important factors conditioning the extent to which co-ordinated change in as well as of higher education organisations is possible or likely (Gornitzka, 1999) (see Section 3.6).

*The legal status of institutions*

An important aspect in the regulatory relationship between the State and institutions is the legal status of institutions. In broad terms, institutions can be considered either as a State agency or as a legal independent person. In the former case, institutions are treated in a way similar to other State agencies such as the National Statistical Office, abiding by public service regulations and being financed by the public budget. In some instances, they may be granted some specific status as a State agency.

*Granting independent legal status to institutions*[34]

Granting independent legal status (ILS) to TEIs is one means of giving greater autonomy to institutions. Having ILS means that the institution concerned is legally responsible for its functioning. One of its forms is that of a foundation.[35] A university foundation has four main defining features: *(i)* it is an independent legal entity; *(ii)* it has a mission (or charter or mandate) to serve defined public (or national or societal) interest in tertiary education and research; *(iii)* as a not-for-profit public interest legal entity, has favourable tax treatment on its incomes, assets and trading activities undertaken in the pursuit of its foundation goals; and *(iv)* it has the autonomy to raise funds and manage its assets in pursuit of the foundation goals. In its more extensive form, ILS may grant the rights to: borrow and raise funds; own building, equipment and other financial assets; fully control budgets to achieve objectives; set internal administrative and management procedures; set academic courses and evaluation procedures; employ and dismiss academic and other staff; set salaries and reward systems; set criteria and size of student enrolment; and set the level of tuition fees (Hasan, 2007).

University foundations offer a number of advantages for institutions to use their autonomy (Hasan, 2007):

- Institutional leaders have the maximum freedom to pursue their goals in the best fashion they see fit without external intrusion or constraint.
- Institutional leaders can plan with a long term view without being subjected to changes in government's budgetary policies yearly given that contributions made by the government are not part of the State budget.
- Bring opportunities for generating additional resources.

34 This subsection is partly based on Hasan (2007).

35 Independent legal entities in the education field can take many forms. They can be incorporated (*i.e.* they are a company) or unincorporated. In either case, they can be for-profit or not-for-profit. For example, all higher education institutions in the United Kingdom are legally independent bodies with a charitable status. Some are incorporated but not-for-profit. But a charity can trade and earn profit for its charitable aims and it can set up a separate non-charitable company for that purpose and be liable for tax on its profits.

– Place accountability on the shoulders where responsibility rests.

However, there are a number of arguments against the foundation approach (Hasan, 2007):

– Running a foundation requires a new set of skills that the institutional leadership may consider difficult to acquire.

– A foundation approach implies a restructuring of internal management, which might be difficult to undertake.

– Staff may see the transition from a public service status to a university employee status filled with risks and uncertainties.

– There are concerns that a foundation status for universities is a form of privatisation where the government is giving up its responsibilities, and which can lead to full commercialisation.

– There are concerns about the feasibility of foundations, *e.g.* as a result of not high enough scale or sufficient expertise to run foundations.

– There are claims that foundations would create a two-tier system of first and second class universities.

A review of the international evidence by Hasan (2007) provides some insights into the conditions which might facilitate the successful setting up of university foundations. These conditions include:

– Foundation status should be voluntary. The key issue is the readiness and willingness of institutional leaders to exercise the independent legal status. The process of introducing university foundations should be a piece-meal rather than across-the-board imposition.

– The level of autonomy granted has to be meaningful.

– The transition to a foundation status requires support structures and arrangements (*e.g.* favourable tax treatment; philanthropy laws; provision of advice to assist foundations in developing strategic plans; expertise in asset management).

– A threshold of scale needs to be achieved, which may require co-operation and mergers between different institutions.

– A credible process of evaluation both external to the foundation and internal to the institution needs to be established.

### *3.2.6 Market-type mechanisms in tertiary education*

This section analyses market-type mechanisms in tertiary education. State authorities may choose to widen the market relationships in which institutions are engaged, by granting more room for institutions to compete (*i.e.* deregulation) and by encouraging competition through, for instance, the authorisation for private institutions to operate. Recent policy activity in OECD countries has concentrated on the balance between government regulation and market-type mechanisms rather than the development of a private tertiary education sector as a substitute to the public sector.

*Nature of market-type mechanisms in tertiary education*

Formally speaking a market is a means of organising the exchange of goods and services based upon price, rather than upon other considerations such as tradition, or political choice (Dill, 1997). A market is a set of arrangements which allows buyers and sellers to communicate and thus arrange the production and exchange of goods, services or resources. A market mechanism is a means that facilitates the co-ordination between demand (consumer) and supply (producer). Market-type mechanisms can also be defined as "an enhancement of competition through more performance based incentives" (Kaiser *et al.*, 1999). Both buyers and sellers compete and their wishes are articulated through adjustments in the quantity and/or price of the commodity exchange (Amaral, Meek and Larsen, 2003).

When examining the dynamics of a particular sector such as tertiary education it is important to recognise that there is not a single market, but rather multiple and interrelated markets. There is a market for students (under-graduates, post-graduates, doctoral students), a market for research staff, a market for teaching staff, a market for research grants and scholarships, a market for donations, a market for graduates, a market for company training, and so on (Jongbloed, 2003).

*Types of market mechanisms*

Market-type mechanisms adopted by government can be specified as "policies that aim to establish or enhance the eight kinds of 'freedoms' for providers and/or consumers in the higher education sector" (Jongbloed, 2003). Jongbloed (2003) identifies eight conditions (essential ingredients) of markets:

- ***On the side of the consumers:***
  - *Freedom to choose provider*

    Examples of market mechanisms which facilitate the choice of provider by students are: a system of vouchers which students can use in the institution of their choice; a well-developed student support system which makes tertiary education more affordable for students at the time of attendance; a support system covering students enrolled in any type of institution (portability of grants and loans); the public funding of private institutions, which broadens the choice of students.

  - *Freedom to choose product*

    Most mechanisms which facilitate the choice of provider also strengthen the freedom to choose the product. Some institutions may present themselves as offering some room to choose specific configurations, specialisations, support facilities and individualised options in terms of combining learning, working and caring for a family.

  - *Adequate information on prices and quality*

    Market mechanisms lead to more efficient outcomes when information on the relative prices and quality of the services can be accessed and interpreted easily. Useful information might include consumer guides, evaluation reports, quality assessment reports, rankings, and performance indicators.

- *A price which influences choice (i.e. functions as a market mechanism)*

  Charging realistic fees which bear some relation to the cost of providing the service urges providers to pay more attention to their customers and turns students into discriminating consumers. A deregulation policy which allows institutions to have a say in setting and differentiating fees could contribute to the goal of encouraging students to take into account price-quality trade-offs in their choice of programmes and institutions.

– ***On the side of the providers:***

- Freedom of entry

  Examples of policies which influence the entry of providers into the market for tertiary education services are: available public funding for new entrants (including from the private sector); accreditation processes to obtain a license to operate or to grant public recognition to degrees offered; authorisation of for-profit providers; opportunities for mergers. Countries differ considerably on the extent of entry barriers, in particular for private institutions. In Spain, for instance, private universities must comply with rigorous rules regarding, among other things, the number of academic programmes offered, the student-teacher ratio, the proportion of full-time professors and their academic qualifications. By contrast, the only requirement in Chile for a new university to start operating is approval of its curriculum plans and programmes by an examining public university (Steier, 2003).

- Freedom to specify the product

  Examples of regulations which affect the freedom for institutions to determine their offerings are: autonomy to license/accredit new programmes or to remove current programmes; availability of public funding for new programmes; autonomy to redeploy staff in line with a re-organisation of programme offerings; availability of curricular standards; freedom to offer a diversity of modes of instruction and delivery (e.g. part-time; distance education).

- Freedom to use available resources

  The scope for institutions to engage in market relationships is increased when institutions: have greater discretion in selecting students; are more autonomous in the management of their human resources; and benefit from greater autonomy in determining the deployment of financial means. Additionally, government policies may create legal opportunities and strong incentives for institutions to commercialise aspects of their core activities: research (*e.g.* licensing, patents, and start-up firms) and teaching (*e.g.* through the sale of training activities, distance education).

- Freedom to determine prices

  The scope of market mechanisms in tertiary education is considerably expanded if institutions: have a say in setting and differentiating their own fee levels; are allowed to set market fees for non-degree programmes. In particular, differentiated fees might be a stimulus for institutional diversity, programme

differentiation and new forms of programme delivery. In general, countries have not permitted public institutions to set tuition fees on a market basis, most especially for domestic students studying for their first degree (see Chapter 4). However, in some countries fees for other students may be set on a market basis, including: non-degree students, international students, students pursuing advanced professional degrees, or students who are enrolled in seats at public institutions that are not funded by the State. Where tertiary institutions may be established on a for-profit basis (*e.g.* Japan, United States), tuition fees are characteristically set on a market basis.

The scope of markets in tertiary education can be widened through either deregulation efforts or through policies to increase competition between providers of tertiary education. A number of market mechanisms seeking to enhance competition among institutions have been introduced throughout the world, including competitive research grants, contract research, performance-based funding formulas for teaching and learning activities, and public funding on the basis of the number of students. In some systems, competition is seen as the main driver of change at the institutional level and at system level and as the prime instrument to bring about convergence between institutional initiative and national objectives. At the same time, institutional autonomy is seen as the latitude for the individual institution to devise a particular strategy to compete with other institutions for funding and to demonstrate excellence publicly (Thorens, 2006).

*Rationale for introducing market-type mechanisms*

There are a number of reasons for the introduction of markets and/or market-like forms in tertiary education systems. Foremost is a desire for economic efficiency understood as "value for money", particularly given the growing costs of meeting social demands for universal access to tertiary education (Williams, 1996). Also important is a desire to use market competition as an incentive for greater innovation and adaptation in tertiary education, than was thought possible through traditional forms of coordination relying on State control or professional norms. Authorities also anticipate that widening the scope of markets will induce, or compel, institutions to become increasingly flexible, resourceful, and "entrepreneurial." This is happening in a context where greater opportunities for commercialisation of knowledge now exist. Brunner and Uribe (2007) provide a comprehensive analysis of markets in tertiary education with an application to the Chilean system.

One can note that governments have adopted market-type mechanisms for various reasons to achieve different goals. As pointed out by Kaiser *et al.* (1999), the expansion of market-type mechanisms is intended 1) to generate more private resources (in light of public austerity); 2) to improve the quality of teaching, 3) to enhance responsiveness to the needs of society, the labour market and students; and 4) to increase productive efficiency.

*Widened competition through expanded private provision*

The authorisation of private institutions to meet enrolment demand that would otherwise go unmet in public institutions has been characteristic of "supply-constrained" countries in Europe (including the Czech Republic, Estonia, Poland, Portugal and the

Russian Federation) [36] and Latin America (*e.g.* Mexico and Chile) (see Figure 2.5 in Chapter 2). In these countries, most of the new non-public institutions occupy a peripheral place, providing instruction for social science and business courses in which demand exceeds supply, or offering qualifications that are heavily vocational in orientation. Research activity and long courses, especially in the natural sciences, are rarely offered.[37]

In other countries, such as Japan and Korea, market-like mechanisms strongly influence tertiary education. The great majority of institutions are private; students choose institutions and institutions choose students in a market-like system where supply and demand are powerful forces; and many funding policies that exist - for example, the relatively small amount of governmental revenue in the system, the dominance of loans that enhance student/consumer choice - also enhance a market-like system. In this case, the government objective is to enhance the positive elements of markets.

The development of for-profit private tertiary education sectors in countries is a much more limited but growing phenomenon. In the 20th century, if for-profit education existed, it had a very small share of enrolments, was heavily vocational in orientation (more nearly "training"), operated at below the tertiary level, or in niches in which traditional public institutions were unwilling or unable to serve (*e.g.* working adults in part-time study, non-degree-programmes). For-profit education was therefore non-competitive with higher education core. However, in the 21st century, legal and commercial changes are underway within the tertiary systems of OECD countries that may lead for-profit education to play a role that is directly competitive with some core aspects of tertiary education in some countries.

Legal changes in some OECD member countries have authorised the establishment of for-profit providers of tertiary education that may hold the status of university – either on a pilot basis as in Japan (2004), or by providing a full authorisation, as in New Zealand (1989), the United Kingdom (2004) or Australia (2000). In the United States there is the emergence of large, career oriented, degree-granting, institutions that are competitive with higher education core, through the consolidation of fragmented, traditional for-profits, and the development of large publicly-traded for profit corporations. In the United States, the for-profit sector is the fastest growing sector of any institutional type. The strategic introduction of for-profit tertiary education has typically had as its aim the introduction of great flexibility and innovation in provision, thereby compensating for perceived gaps and inflexibilities in public provision.

*Challenges associated with widened scope of markets*

The literature has identified a number of risks associated with the widened scope of markets in tertiary education. To begin with, if tertiary institutions become deeply engaged in market relationships - particularly as these move from the periphery of their operation to their core research and teaching activities - the incentive of profitability may threaten their intellectual independence and integrity (see, for example, Bok, 2003). Income generation also bears the risk of the institution entering into direct competition with private businesses, consultancy firms or other commercial education providers. This

36 For an overview of the role and relevance of private higher education in Europe see Wells *et al.* (2007).

37 For example, in Mexico, 3.5% of enrolments in "mathematics and exact sciences" are at private institutions, while more than one-third of social science enrolment is at these institutions.

may lead to concerns about conflicts of interest, unfair competition and market distortion, especially when commercial businesses argue that publicly funded institutions use government grants to engage in cross-subsidisation and under-pricing (Jongbloed, 2003).

Widespread challenges exist concerning quality and its assurance when the scope for competition, especially through expanded private provision, is large. Low barriers to market entry are seen as a risk of degrading quality. Countries with strong private tertiary education sectors, such as Japan and Korea, are placing tertiary education in a tight framework of nationally organised quality control, while de-regulating the institutions in order to encourage greater innovation, creativity and enterprise at institutional level. There is a case for regulation to assure that market failures related to information, transparency and quality are controlled.

Market competition might also be inefficient if, for example, there is a small number of institutions operating in the same domain (diversification of service weakens competition), or there is a lack of scale of institutions (potential inefficient use of some resources). There is also the risk that competitive pressures acting in the short term may be reconciled only with difficulty to the long-term interests of continuity in research. Another fear is that competition can drive up student costs (new fees and loan schemes), possibly hindering the access of low-income students (see, Massy, 2003, for the case of the United States). In order to bring efficient outcomes, market mechanisms also require the availability of extensive information to the main players such as prospective students, institutions and employers. Box 3.2 about the National students survey in the United Kingdom provides an example of a valuable resource for prospective students to make choices about what and where to study.

**Box 3.2. National students survey in the United Kingdom**

The National Student Survey (NSS, www.hefce.ac.uk/learning/nss) is a national initiative that has been conducted annually since 2005 under the auspices of the Higher Education Funding Councils for England and Wales (HEFCE and HEFCW respectively) and the Department for Employment and Learning of Northern Ireland (DEL). These bodies have a statutory role in ensuring that the quality of teaching in higher education is assessed, and they believe that students' views should form an important part of the assessment.

All students enrolled in under-graduate courses are surveyed in their final year of study, and are asked the extent to which they agree with a series of statements about their course. The questionnaire takes no longer than five minutes to complete and covers the areas of teaching, assessment and feedback, academic support, organisation and management, learning sources and personal development. In 2006 for instance, 56% of final year students from 145 institutions responded. Results indicated that over 30% of them definitely agreed and 50% mostly agreed that they were satisfied with the quality of their course overall. Only 10% mostly or definitely disagreed.

As well as providing useful information for prospective students, the NSS data show universities and colleges how they can improve the quality of their students' experience. A wide range of innovations and improvements were spurred by the results of the 2005 survey, including new facilities and student support schemes, extended opening hours for libraries and other services, new assessment and feedback systems, and more effective student consultation procedures.

Results of the NSS are available on the Unistats Web site (www.unistats.com), disaggregated by subject and institution. The Web site also allows users to generate comparisons across several institutions. The NSS provides a valuable resource for prospective students to make choices about what and where to study, and is also a powerful tool for institutional improvement.

### *3.2.7 Accountability*

An increasingly important element in the governance of tertiary education systems is accountability. Whether located within the context of publicly funded tertiary education systems, or publicly supported systems, the demonstration of "value for money" or of "responsible and relevant activities undertaken with the taxpayer's money" are now widespread in most reviewed countries. This trend of greater transparency and public accountability develops alongside the move towards greater autonomy. It reflects the recognition that there is a public interest in tertiary education which needs to be reconciled with the benefits which institutional autonomy can bring. Areas where public interest is to be preserved include guaranteeing academic quality and standards; ensuring the equity of student admission procedures and the accessibility for students from poorer families; or ensuring an appropriate use of public funds within institutions (*i.e.* internal efficiency).

Accountability can take a number of forms, including:

- *Quality assurance framework*. Quality assurance systems not only serve the purpose of improvement but also of accountability (see Chapter 5).
- *Performance-related funding*. One approach to ensure that institutions focus on their performance is to allocate funding on the basis of some performance indicators (see Chapter 4).
- *Accountability through market mechanisms*. Accountability can be strengthened through the reinforcement of market mechanisms. For instance, for the case of teaching and learning, the idea is that the more students 'vote with their feet' the more institutions will be held accountable (see Section 3.2.6 and Chapter 4).
- *Participation of external stakeholders in institutions' governing bodies*. External representatives would provide advice and support for the institution to facilitate its contribution to society (see Section 3.6).
- *Information on institutional results provided publicly*. One way of demonstrating accountability is for institutions to publish performance measures, including measures of the quality of teaching and of research and the labour market outcomes of graduates (see Chapter 5).

There is no debate about the appropriateness of accountability. Yet there is debate about the growing burden of compliance and the detailed reporting associated with accountability. Institutions often stress an in-built tendency for detail and an over-emphasis on compliance rather than on getting on with the job. Accountability tools are often perceived as prescriptive and interventionist. Therefore the challenge is to find an appropriate balance between securing the public interest on the one hand and encouraging institutional autonomy on the other (see Section 3.3).

## 3.3 Steering TEIs: practices, trends, and drivers of change

In this section we show that many countries have chosen to devise new structures of governance, permitting TEIs to exercise wider autonomy over their own finances and management. Others with a long legacy of institutional independence of educational authorities have opted to make institutions more accountable for the accomplishment of public purposes through the monitoring of their performance or outputs, and the establishment of performance reporting, performance contracts or similar tools of

governance. The result is reforms that simultaneously stress self-regulation, greater reliance on market forces, and institutional entrepreneurship while at the same time strengthening accountability, establishing new mechanisms for system coordination, and devising performance-based instruments. New approaches to governance in tertiary systems combine the authority of the State and the power of markets in new ways.

It appears that most OECD countries have increasingly converged around a *shared vision* of tertiary education policy, oriented toward a public policy framework in which detailed administrative direction is diminished, institutional autonomy widened, and accountability mechanisms strengthened. This pattern has been associated with a 'facilitatory model' of relationship between tertiary education and government (Neave and van Vught, 1991). This vision has been embraced in a broad range of tertiary systems, including those in which publicly-managed and financed institutions predominate (or exist to the exclusion of others), and those in which private management and financing of tertiary institutions play a large role.

While this trend may hold across a wide range of countries, closer inspection reveals a much more complex and varied picture. In some countries more than one vision and practice of policy direction may exist, owing to the presence of different tertiary sectors that operate under entirely different policy frameworks, due to the division of authority between federal and sub-national authorities, or due to the sheer scale of the country and its tertiary institutions. For example, with 300 000 citizens, 18 000 tertiary students, and 8 tertiary institutions, Iceland's tertiary policy community is marked by personal acquaintance, common understandings, and a single set of public authorities operating within a single legal framework. Conversely, it is difficult to identify a single coordinated and integrated "system of tertiary education" in China, where an estimated 23 million students are enrolled in 1 731 "regular tertiary institutions", 73 of which are affiliated with the Ministry of Education -- while the others are affiliated with other central government ministries; the education commissions of provinces, municipalities, and autonomous regions; or private entities.

Further, while a common vision of public management with respect to tertiary education may be broadly shared, actual policy practices and the trajectory of policy change vary widely. Political and legal traditions, constitutional arrangements, and styles of public sector management vary widely, as does the legal status and historical role of tertiary institutions (Neave, 2001).

Two broad patterns of change in public governance of tertiary education can be identified. First, there are tertiary systems in which institutions, chiefly universities, were legally State agencies, and were subjected to detailed administrative direction – though perhaps enjoying full substantive autonomy. Here there has been, generally, a widening and deepening of financial and managerial autonomy vis-à-vis the State. Elsewhere, in systems where institutions operated with a fairly high level of autonomy vis-à-vis the State, demands for heightened accountability and greater efficacy in contributing to public purposes have led to more extensive guidance by public officials, characteristically through tools that focus on institutional performance.[38]

38 Herbst (2004) describes these trends as "contrasting developments." In his study of funding he notes, "In Europe and in countries shaped by European traditions, block grants are being used to extend the financial autonomies of institutions. These grants not only demand greater accountability on the part of institutions; they also frequently imply performance funding measures. Conversely, in the US the customarily looser strings which tie state and public institutions together are being tightened."

### *3.3.1 Pattern One: Reducing State Control and Widening Institutional Autonomy*

In a number of tertiary systems, the most significant governance trend has been the widening of institutional autonomy, from more discretion over the use of financial and physical capital to greater authority over personnel matters. This has characterised most European countries in the last two decades with tertiary systems moving away from detailed State control to more institutional independence (Eurydice, 2000).[39] This is likely to result both from the realisation that it would be both difficult and counterproductive to continue to exercise strict control in today's changing world (Neave and van Vught, 1994) and from a new approach to the management of institutions adopted in the public sector (Dill, 1997). Some of the governance innovations which are taking place are characteristically aimed at research universities, and may not extend to other tertiary institutions.

*From State agency to legal person*

Several examples exist of countries which have recently granted independent legal status to at least some of their institutions.

- Japanese incorporation of national universities (2003) (see Box 3.3).
- Austrian Universities Act 2002 which granted independent legal status to universities. The Austrian example is characterised by an across-the-board implementation of full independent status for universities. Universities' autonomy was drastically expanded; universities are now free to decide on employment conditions, academic programmes, resource allocation without government approval (Sporn, 2002), and to borrow funds. The legal authority is exercised by a governing board made up of 5-9 members, with some appointed by the government. Academic personnel are university employees on private contracts (Hasan, 2007).
- Finnish government proposal for university incorporation (8/2007).
- Portugal approved new legislation allowing public universities to become foundations (New legal regime for institutions of higher education, approved in October 2007).
- Denmark's Universities Act (2003) granted *partial* independent legal status to universities. The law offered self-governance to the universities by recognising them as special administrative entities in public law. The universities were offered scope for enhancing their private funding without risking public funding. The main tools for budgetary allocation became development contracts and other supplemental contracts. The law offered more autonomy in areas such as the approval of new academic programmes and the number of staff. However, universities were not given the right to own and manage their estates and do not have the facility to borrow from the private sector (Hasan, 2007).

39 Historically, Continental European universities developed under the Humboldtian tradition were granted significant substantive autonomy in areas of standards, curriculum and research. At the same time, universities were (and remain in some cases) subject to significant "procedural" controls in non-academic areas (OECD, 2006b).

**Box 3.3. National and public university incorporations in Japan**

Japan's tertiary education system comprises both public and private institutions. The public sector consists of national and local public universities which are established respectively by the national government; and prefectures or cities. While private institutions enrol by far the majority of under-graduate students, national institutions play a significant role in research and post-graduate education. Since the establishment of the first national university in 1877, Japanese national universities have been operating as public agencies and academics have held civil servant status.

In 2004, the government decided to remove national universities from the governmental legal framework as part of a broader restructuring of the Japanese economy and society. National universities became 'national university corporations' with a view to increase their autonomy and responsible independence. The incorporation of national universities was accompanied by legal changes to ensure that the internal decision-making effectively utilised the expanded autonomy of universities. To this aim, management systems were strengthened with a strong President heading the institutions, external participants were introduced in ranks of trustees, and the civil service status of academics was discontinued. On the other hand, each national university corporation obtained the ownership of its lands and buildings, and was granted responsibility and autonomy with respect to expenditure.

Increased competitiveness and enhanced accountability in research and education are expected from these reforms, and an Evaluation Committee has been established to monitor the implementation and impact of the changes in each of the national universities.

In addition, public universities established by the prefectures or cities can also become independent agencies since 2004 on the judgement of their prefecture or city since 2004. As of 2007, 33 public university corporations have already been constituted.

*Source:* MEXT (2007), OECD/IMHE (2007).

*No change in the legal standing of tertiary institutions as State entities, but substantial delegation of operating autonomy.*

In other countries with a tradition of detailed State regulation, there was no change in the legal standing of tertiary institutions as State entities but a shift from direct administration to substantial delegation of operating autonomy. Examples are:

- *France, contractualisation in universities* (see Box 3.4).
- Sweden, the 1993 *Higher Education Reform* with a transition from a 'State control' model to 'State supervision', with expansion of institutional autonomy and the introduction of governance by goals and results. The reform gave institutions greater discretion over the organisation of programmes, educational offerings, institutional organisation, and internal resource allocation (Askling *et al.*, 1999; Bauer *et al.*, 1999).
- Norway, the "Quality Reform" legislation of 2002 and 2005, which has considerably increased institutional freedom to introduce or remove courses and programmes.
- The Czech Republic and Poland, which after 1990 quickly handed over to the TEIs not only financial autonomy but with it, the responsibility for planning their broad mission, their strategic future and their programme offerings. In the Czech Republic the Higher Education Act of 1998 changed the legal status of TEIs from state to public institutions with important implications such as the transfer of infrastructure property to institutions and the establishment of boards of trustees.

**Box 3.4. Contractualisation in universities in France**

While French universities legally have pedagogical, scientific, administrative and financial autonomy, the French State has kept important prerogatives such as allocating employment positions to universities, as well as establishing, regulating, and funding higher education institutions. In this context, the system of 4-year contracting which has been operating for 15 years has allowed universities to gain more practical autonomy. Institutions propose a project to the State and negotiate the means to implement it. The institution commits itself to a plan of action to achieve quality improvements in return for extra-budgetary financial resources. In practice, this implies that some of the prerogatives of the State -- including on budget and employment positions -- can be partly delegated to the institutions

*Drivers of change*

The primary motivation for granting greater autonomy to institutions is to improve the responsiveness of TEIs to national and societal demands. A number of impetus for change are:

- Perception that countries will more fully benefit from the innovative capacities of universities if they shift from State agency to "entrepreneurial university" (Clark, 1988). State controls are perceived as running the risk of creating inflexibilities and damaging the capacity for innovation. There is also the view that decisions are best taken by those who are specialists in the subject and closest to the action. More autonomy is also seen as giving the possibility of creating a distinctive institutional profile.
- Response to a new political context marked by sustained public budgetary pressures and an anti-regulatory orientation, which, in combination, constrain the possibility of funding increases to tertiary education, while at the same time challenging the traditional role of the State *vis-à-vis* tertiary institutions.
- The desire for greater efficiency which should follow from devolution, especially speed of decision-making.
- A greater realisation that the State does not have the planning capacity to provide direct micro-management to individual institutions, especially in expanded systems.
- The concern that institutions as State agencies lack the incentives and capacity to commercialise research, or to effectively compete for international researchers or research funding.

*Challenges associated with change*

Whilst there is emerging consensus that in many instances more autonomy is desirable, there is concern as to whether institutions will be able to manage it effectively, and this raises issues of:

- robustness of internal management at various levels *i.e.* in some countries, the grafting of elements of a managerial culture on to the existing collegial and professional bureaucracy cultures. Institutions need capacity and, in particular governance and management arrangements, to effectively exercise their autonomy.
- appropriate governance and interface mechanisms with the external environment.

- swift response processes with regard to external initiatives and overtures.
- a strong risk assessment function in the face of multiple opportunities.

### *3.3.2 Pattern Two: From Subsidy to Steering*

In systems where institutions have by law and custom been substantially independent of State authority, emphasis has been place on how to make institutions more accountable for the accomplishment of public purposes through the monitoring of their performance or outputs, and the establishment of performance reporting, performance contracts or similar tools of governance. These policy practices can be found in the Netherlands and "Anglo" systems (Australia, Canada, Ireland, New Zealand, South Africa, United Kingdom and United States), among others (Rowland Eustace, 1982).

The example of New Zealand is illustrative. McLaughlin (2003) argues that the tertiary system in New Zealand went through distinct periods of change focussed on different themes. From 1990, competition and private contributions were introduced with the objective of broadening participation. This can be seen, apart from a political-ideological change, as a reaction against the up to then prevalent elite characteristics of the system. This direction of policy change continued during the 1990s with emphasis on market-like competition, student choice (diversity) and an emphasis on private returns to tertiary education. From 2000 onwards, while maintaining the general thrust of competition and markets, the emphasis shifted more towards governmental steering in an attempt to closer align tertiary education with New Zealand's socio-economic development.

Steering can be relatively complex and involve a large number of actors. In New Zealand, the main agencies are the Ministry of Education (MoE), the Tertiary Education Commission (TEC), the New Zealand Qualifications Authority (NZQA) and Career Services Rapuara. TEC, NZQA and Career Services are so-called Crown Agencies with their boards appointed by the Minister. TEC is a combined policy/implementation agency, involved in institutional capacity building, overall policy advice, and allocation of government funding. NZQA provides overarching quality assurance, administers the national qualifications framework, registers private providers and evaluates overseas qualifications. The main instruments are the Tertiary Education Strategy (TES) and the institutional investment guidance statements (see Box 3.5). Governance operates as follows. The cornerstone is formed by the TES, which is derived from the country's national development goals. Through the TES the basis for articulation of national goals and priorities into institutional actions is laid. The central view of priorities - related to things that government knows – is balanced against a bottom-up view gained by creating the expectation that each TEI will work with its local or national stakeholders to determine what is required at a more detailed level. The TEIs produce a plan, for approval by the TEC, which responds to both these sets of priorities. This involves multi-year funding, with the duration of funding approval dependent on the institution's performance and its contribution to the national priorities. The resultant is a rather unique mix of central steering within an overall context of market-oriented dynamics.

State supervision is also evolving into elaborate systems of incentives and sanctions that allow governments to 'steer from a distance' (CHEPS, 2006). A wide range of tools that focus on performance are being implemented, including:

- Performance indicators (Cave *et al*., 1997).

- Performance-related funding (Herbst, 2007).
- Negotiated performance contracts (*e.g.* Iceland).
- Investment planning (*e.g.* New Zealand, see Box 3.5).

**Box 3.5. Governance, steering and planning (investment planning) in New Zealand**

In New Zealand, the government sets out national goals and priorities for the tertiary education sector every five years in the Tertiary Education Strategy (TES). Institutions use the TES and information derived from their stakeholders to determine what is required at a more detailed level. Institutions then produce an investment plan that responds to both these sets of priorities. The investment plan outlines the institution's strategic direction, activities, policies and performance targets and explaining how the institution expects to contribute to the achievement of the TES priorities. Institutions' investment plans and their performance against a variety of performance measures are discussed with the TEC. This leads to the allocation of government funding to tertiary institutions by the TEC. The TEC uses investment plans, performance monitoring and accountability tools to steer institutions towards the TES priorities.

From a policy analytical perspective, the concept of the TES-investment plan-performance report cycle provides the opportunity for systematic coordination, the articulation of national priorities into institutional priorities and the possibility of translating and relating this to the fundamental concept of systemic and institutional diversity. The investment plan approach appears well-suited to the dynamic policy environment characteristic of New Zealand.

*Drivers of change*

A number of factors lead the State to reinforce its steering of tertiary education:

- *Embrace of "evaluative State" paradigm by political leaders.* Neave (1988, 1998) has characterised the 'evaluative State' as an emerging mode of system control for tertiary education in which State administration of universities is giving way to more 'remote steering at a distance'. In this view new responsibilities and managerial freedoms are being laid upon institutions by governments, including for attaining certain elements of national strategic planning, which require a commensurate increase in 'a posteriori' external accountability and evaluation (as summarised by King, 2007).
- Need to better balance autonomy and accountability.
- Desire to mobilise a performance culture to break down old scholarly privileges and university bureaucracy.
- Attempts to meet intensified international competition, *e.g.* in worldwide market in elite doctoral education.

*Challenges associated with performance-based steering regimes*

Examples of challenges with performance-based steering regimes are:

- Those who lead and work in tertiary institutions may perceive performance-based steering as an approach that jeopardises institutional autonomy. Tools that focus on performance are sometimes alleged to be highly prescriptive and interventionist.
- Successful implementation of performance-based steering requires of public officials data and analytic capacities which they may sometimes not adequately

possess; likewise, institutions may lack integrated information management systems or administrative capabilities.

- Because of the intelligence of its constituent parts, institutions of tertiary education are not easy to steer. Crude measures do not work and even the more sophisticated instruments run the risk of being perverted or used for other purposes than those intended.
- There is a risk of creating, unintentionally, a kind of compliance culture in the institutions.
- Activities and outcomes that are poorly measured – such as teaching quality and learning outcomes – may be given less attention.
- Performance-based systems that concentrate resources in high-performance institutions may jeopardise common degree standards across like institutions and degrees.

## 3.4 Diversifying tertiary education systems: practices, trends, and drivers of change

During the past decade in a majority of the countries under review government policies have encouraged diversification of tertiary institutions and/or programmes. Faced with the growing diversity of societal and student demands, some governments have responded by creating new more vocationally-oriented non-university institutions, giving them a leading role in the training of a skilled workforce. Elsewhere, policies have encouraged wider differentiation within an unitary system through the encouragement of competition among institutions that vary in mission, reputation, price, and ownership.

Few studies have investigated approaches to diversification of tertiary education systems (Meek and Wood, 1998). Some studies suggest that government intervention limits the diversity of the tertiary education system, and greater institutional freedom produces more diversity (Birnbaum, 1983). Other studies indicate that government regulations are necessary to promote and protect differentiation (Skolnik, 1986; Huisman and Morphew, 1998).

### *Drivers of change*

A number of motivations for diversification of tertiary education are:

- Making tertiary education system more responsive to the needs of the economy and labour markets. Policy makers anticipate that a highly diverse tertiary system will better respond to the needs and preferences of society and lead to social benefits and economic growth (Dill and Teixeira, 2000).
- Responding to the needs of a pool of prospective students which is larger and more varied with respect to social backgrounds, academic preparation, and aims. This holds not only for students coming from secondary school but also for individuals in the labour force requiring continued training. The latter group is likely to grow as the result of sharp ageing populations in some countries. In addition, growing numbers of international students lead to new demands on national systems (see Chapter 10).
- Widening access to tertiary education and promoting social inclusion (see Chapter 6).

- Providing highly-qualified professional education (see Chapter 9).
- Addressing regional needs and foster competition (see Section 3.5).

Two broad patterns of diversification in tertiary systems can be identified. Some countries went for the creation of more vocationally-oriented non-university institutions. Other countries opted for unitary systems where the emphasis is on enhancing diversification in terms of mission and reputation through competition among institutions of a similar type.

### *3.4.1 Pattern one: creating more vocationally-oriented non-university institutions*

In order to introduce differentiation in their tertiary systems, some countries opted for segmenting institutions in a number of well-identified types. Firm lines are established across sectors while uniformity is intended within each sector. In recent decades, examples of new sectors within non-unitary systems include:

- University Colleges in Norway.
- *Instituts Universitaires de Technologie* (IUTs) in France.
- Polytechnics in Finland and Portugal.
- Professional higher education institutions (*rakenduskõrgkool*) in Estonia.
- Technological universities and technological institutes in Mexico.
- Professional Institutes and Technical Training Centres in Chile.

*Challenges associated with the creation of vocational sectors*

The creation of vocational-oriented sectors raises a number of challenges:

- *Avoiding 'academic drift'.* Perhaps the most obvious challenge is the pervasiveness of 'academic drift'. The term refers to the widespread, persistent and inappropriate aspiration of more vocationally oriented institutions to emulate the mission and practices of established and generally 'elite' universities (see for example Raffe *et al.*, 2001). The causes of academic drift are complex, but usually include the social and cultural status attributed to older universities and their members (staff and students); the more generous resourcing available to elite and research-oriented universities; and the 'trickle-down' effect of academic staff recruitment: most staff in all but the most prestigious institutions are likely to have obtained their qualifications from an institution higher in the academic hierarchy than their present place of work.
- *Avoiding fragmentation of subsectors.* A concern is that rather strong barriers might be established between universities and vocationally-oriented sectors. These barriers might be visible in research (*e.g.* lack of networking between universities and non-universities) and in teaching (*e.g.* reduced multidisciplinarity; lack of effective recognition of learning across institutional sectors affecting mobility within tertiary education). The potential weakness of such approach to diversity is also that it can lead to an unhelpful and uncoordinated provision lacking an overall 'steer' which would optimise the benefits of the entire system to society.

- *Defining the vocational orientation of an institution*. The vocational/professional – academic differentiation might be conceptually blurred given the possible existence of well established professional disciplines in universities. All tertiary sectors are also now well engaged in community-oriented activities. Moreover, internationally the theory-practice separation is at the very least questioned.
- *Defining the role of non-universities in research*. In most countries, there is generally a lack of a clear vision on the research role of non-universities. The challenge is to develop a vision and appropriate framework for research development in non-universities so they best serve their mission.

### *3.4.2 Pattern two: encouraging wider differentiation within a single institutional type through competition among institutions*

An alternative to diversify tertiary education is through universality in institution type while relying on competition across institutions to bring variation in institutions' missions and profiles. Institutions of a similar type can be differentiated across a wide range of dimensions:

- Student selection;
- Degrees awarded;
- Programmes offered;
- Type of research;
- Price;
- Extent of engagement with surrounding community.

Binary university systems were abolished in Australia and the United Kingdom.[40] In these two countries, the immediate tendency was the convergence around the single template of research university, comprehensive across fields of study. Arguably this foreshadowed a larger number of research intensive universities than either nation needed; and in fact both national systems contain a substantial number of universities in which doctoral training and basic research are not fully established in all fields. The British Research Assessment Exercise and the current Australian policy of fostering greater diversity through university-driven missions now point towards a pattern of more complex and diverse specialisations within the national system. In both nations several types of institution have emerged on an informal basis with self-managed groupings. For example, in Australia, over the past decade there has been an increasing tendency for universities which are similar to form groups or consortia. These serve a number of purposes including advocacy on behalf of the group, sharing good practice and benchmarking. There are three formal groups of universities – the Group of Eight (the older, research-intensive universities), the Australian Technology Network and the Innovative Research Universities. Some regional universities comprise a less formal grouping.

40 In Australia, the "binary division" between Colleges of Advanced Education and Universities was replaced by a "Unified National System" in the late 1980s. However, tertiary-level vocational education is also provided by the Technical and Further Education (TAFE) sector. The binary line, the distinction in mission between universities and polytechnics, was abolished in the United Kingdom in 1992. All polytechnics and some colleges of higher education have since obtained university status.

In Iceland, government policies have encouraged competition among institutions with the aim of promoting diversity in tertiary education. Private institutions are now eligible for public funds after meeting general criteria, and new institutions have been elevated to the university level.

*Challenges associated with widening differentiation within a single institutional type*

Achieving diversity within the framework of the single institutional type raises a number of challenges:

- There are concerns about whether one type of institution can perform at a high standard in meeting social obligations of tertiary education: promoting social inclusion, producing world-class frontier research, providing highly-qualified professional education, and working closely with small and medium enterprises.
- Funding mechanisms have to be reconsidered in systems where universities don't all have the same capacity to undertake research activities (*e.g.* Australia, Iceland, and United Kingdom).

## 3.5 System Linkages

One of the biggest challenges that tertiary education is facing – and to a large extent, already addressing – is to step out of its traditional ivory tower and outreach towards its environment. To this aim, linkages need to be built and/or strengthened not only within increasingly diverse tertiary systems, but also up and downstream with upper secondary education and the economic world, as well as with the surrounding regions and communities in which TEIs operate.

### *3.5.1 Linking tertiary education up and downstream with secondary education and working life*

The past decades have seen a rapid expansion of tertiary education participation, driven by the demands of a growing, upwardly mobile (or at least upwardly aspiring) population (see Chapter 2 and Johnstone *et al.*, 1998). The corollary is a change in patterns of tertiary education participation with a growing diversity of student populations in terms of age, socio-economic background, basis for admission, mode of attendance, aspirations and academic abilities. Meanwhile, the demands placed on TEIs have also evolved as the transition to knowledge economies heightens the need for multidisciplinary and adaptable workers, the regular upgrading of their skills, and thus less traditional demands for tertiary training, with greater emphasis on flexible and modulated provision.

These trends have implications at the system level in terms of how regulations, policies and incentive and reward structures can steer all actors in directions that best serve societal and economic objectives. Close linkages with upper secondary education – which feeds students into tertiary education systems –and with the economic world – in which they are ultimately to work – are important to ensure that changing demands for tertiary education are accommodated and that all students are given the opportunity to thrive, while meeting the needs of the economy.

*Accomodating changing demands for tertiary education*

Growing diversity of learners

Whilst tertiary education has long been the privilege of small elites, the dramatic expansion of participation over the past three decades has overhauled the makeup of student bodies and meanwhile, their aspirations and expectations of tertiary education. Indeed, nearly one third of the population now attains tertiary education across the OECD, up from only 19% three decades ago (OECD, 2007a). Other noteworthy trends include the increased participation of females, mature students and those from less privileged socio-economic backgrounds (see Chapters 2 and 6).

Illustrating this evolution, students commencing under-graduate studies in Australia are admitted via a wider range of pathways than just four years ago. In 2005, those undertaking tertiary education directly after upper secondary school completion comprised only 42% of the total. Others had followed less traditional pathways and included students with a previous tertiary qualification (25%), students from tertiary vocational courses (10%), as well as lesser numbers enrolling with professional qualifications, employment experience, mature age entry *etc.* (Martin and Karmel, 2002). Likewise, the growing participation of mature students means that more students have family responsibilities making it more difficult for them to follow traditional modes of full-time attendance. As an illustration, a 2005 study on the living conditions of students in Norway found that 39% of them were living with a spouse or partner while 22% had children at home (Ugreninov and Vaage, 2005).

Adjusting provision

Student bodies have thus become much more heterogeneous than in the past in terms of educational backgrounds, constraints for attendance and expectations. The expansion of tertiary education has implications for policy as tertiary education systems need to adjust to accommodate a wider spectrum of students. As put by Figgis and Parker (2002):

> *"Governments need to think holistically about education, as they strive to provide a system which will prepare people to participate in the knowledge based economy – a system which must accommodate a cohort of increasingly wide diversity, an ageing society, the pervasiveness of ICT, shifts in the labour market and technological change. In this kind of environment, linear, hierarchical concepts of knowledge and skills are beginning to be questioned. Such questioning has far-reaching implications for how education credentials are acquired and will function in the future."*

As clients are becoming more diverse, provision needs to adapt. The traditional mode of full-time and campus-based attendance is ill-suited to the needs of adults and lifelong learners, who often undertake tertiary studies while working and supporting a family. In this context, part-time and credit-based offers, evening classes, and the range of distance modes of delivery are gaining in importance. As a matter of fact, the increased participation of adults and mature students in Australia has translated into a growing proportion of students enrolled other than full-time and on campus. TEIs thus need to develop more flexible modes of tertiary education delivery.

Flexibility is also required in terms of programme offer. The needs of an increasingly competitive and technologically-sophisticated economy call for diverse responses from

the tertiary education sector (Johnstone *et al.*, 1998). Rapidly changing skill requirements in working life create a strong demand for lifelong learning and skill upgrading – in the form of short-cycle offerings and industry training. As put by Jacobs and van der Ploeg (2006), individualisation and increased heterogeneity is an inexorable trend. The need for a skilled labour force has also led many governments to extend tertiary education opportunities to wider groups of students, including those coming from vocational pathways.

Country experiences suggest two main strategies to help governments achieve these goals. The first one aims at better articulating tertiary education upstream with secondary education. Meanwhile tertiary education also needs to be responsive to changing demands from the economy.

*Articulating secondary and tertiary education for successful tertiary study*

A challenge for tertiary education policy lies in bridging the gap between upper secondary and tertiary education. Indeed, one corollary of the massive expansion of tertiary participation is a high level of non-completion of tertiary programmes by students. In the OECD, three out of ten new entrants in tertiary education fail to successfully complete their degree on average (OECD, 2007a). Dropout is not necessarily an indication of students' failure to meet the standards set by their TEI. It may also result from their realising that they have chosen the wrong subject, or finding attractive employment before completing their degree. Irrespective of the underlying reasons, student abandon might be an indication that programmes did not meet their needs or expectations, and as such, constitutes an important source of internal inefficiency of the system.

This lays the agenda for policy makers, in enhancing the system's ability to achieve successful tertiary study for a diverse range of learners. In doing so, a key barrier results from the possible disconnection between upper secondary and tertiary education. There are organisational reasons to this potential situation: insofar as these stages of education are often governed by different ministries coordination of educational pathways and curricula may be undermined. There is therefore a need for mechanisms to better articulate secondary and tertiary education so as to enhance tertiary outcomes and the system's internal efficiency. In this respect, efforts may be directed in several directions, including student information and career guidance, articulation of upper secondary and tertiary curricula, tracks between vocational secondary education and tertiary education, as well as bridging and remedial programmes.

Information and career guidance

The first mechanism by which study completion may be enhanced lies in improving student information at the upper secondary level, so that their enrolment decisions and choices of subjects reflect their needs, expectations and abilities. Indeed, as institutions become more differentiated, the number of courses to choose from increases, and courses become more differentiated in content between TEIs, the need grows for information and advice to help young people decide what and where to study (OECD, 2004). Asymmetries of information between insiders and outsiders of the tertiary education system all too often lead students along the wrong tracks, incurring large costs in terms of motivation, self-confidence and wasted time and financial investments. This risk is particularly high for students from low socio-economic background who cannot rely upon

parental guidance and advice (see Chapter 4). According to Orr (1998, 1999), what is needed is much stronger communication and collaboration between secondary and tertiary systems to help students understand what they need to know and be able to do to achieve the ambitions that so many have. Information on tertiary education opportunities available is not sufficient, prospective students also need information on the ability requirements, demands and labour market outcomes of various programmes to make informed decisions and limit the odds of choosing the wrong track.

To a large extent, information and career guidance at the upper secondary level are out of the realm of tertiary education policy. However, tertiary education authorities may facilitate initiatives that enhance transparency for prospective students, *e.g.* launch national student satisfaction and graduate destination surveys, support the development of guides or Web sites providing comparative information on courses and programmes, or encourage joint initiatives of upper secondary and tertiary institutions such as open doors days at universities. An interesting initiative in this respect is the *Unistats* Web site developed in the United Kingdom which publishes the results of an annual survey of final-year students' satisfaction (see Box 3.2). Australia, Finland, Korea, Mexico and the Netherlands have similar online portals aimed at prospective students while a number of countries taking part in the review have launched graduate destination surveys (see Chapters 6 and 10 and OECD, 2004). With respect to cooperation between upper secondary and tertiary institutions, many Australian universities have developed initiatives to bring school students onto university campuses, highlight the value of higher education, and link school students with university student role models. Likewise, some TEIs have established links with upper secondary schools and deliver lectures or seminars in China and Poland, although those initiatives remain limited. In Finland and Sweden, such cooperation is established by law as a way to reduce the socio-economic bias in recruitment.

### Articulation of secondary and tertiary curricula

Another policy-lever available to governments to increase students' survival rates in tertiary education consists in enhancing the alignment of upper secondary and tertiary curricula, so that upper secondary graduates are well-equipped to thrive in their tertiary studies. Indeed, Adelman (1999) has found in the US context that the strongest predictor of bachelor's degree completion was the intensity and quality of students' high school curriculum. Countries have adopted two main mechanisms to better articulate upper secondary and tertiary curricula. The first approach relies upon tertiary entrance examinations to steer upper secondary curricula towards tertiary requirements while a range of other approaches target the upper secondary curriculum directly.

In countries where a national examination confers eligibility to enrol in tertiary studies, the subject content being assessed can have a wide-ranging impact on the curriculum being taught in upper secondary schools. In China for instance, the *Gaokao* – the national entrance examination for tertiary education – is a crucial step in the life of every student as well as an important event in the family. In practice, the success rate of students has become a benchmark in assessing the quality of their school by society and as a result schools tend to shift the course content of the final year of upper secondary education in the direction of the test requirements in an attempt to prepare students as well as possible. This pattern – which may be seen as disruptive if the assessment requirements diverge from desired knowledge and skills – also has great potential for steering upper secondary curricula in those countries where government authorities have

a say on minimum admission requirements (see Table 6.2 and Chapter 6). Portugal illustrates this strategy. In the face of persistent questions about the quality of entering students, the government reintroduced national examinations at the end of upper secondary education in the late 1990s and established minimum marks to gain eligibility for tertiary education in 2003 in order to raise entrance standards. This policy move is expected to foster co-ordination and improve linkages between upper secondary and tertiary education. Likewise, Wojcicka (2004) reports that in Poland those linkages have been enhanced through the replacement of the *matura* and university entrance examinations by a single exam (*new matura*) based on transparent standards developed as a collaborative effort between upper secondary schools and TEIs.

Using tertiary entry examinations as a way to steer upper secondary curricula towards desired content may also be an option in systems with no formal national upper secondary leaving examination. Indeed, Orr (1999) found evidence in the US context that the policy of some community colleges to report applicants' scores on entrance examinations to their high school of origin had caused great surprise among high school teachers who were surprised to learn how poorly their students had performed on the tests. These results suggest interesting avenues for policy, as TEIs may be encouraged to communicate the results of their entrance selection processes to upper secondary schools as a way to stimulate dialogue on curriculum content and requirements.

The second channel used to enhance curriculum alignment between upper secondary and tertiary education consists in direct intervention on the upper secondary school curriculum. In countries where a national or state upper secondary curriculum exists, involving tertiary academics in curriculum design or reform is an obvious option. This approach is used in Australia and Croatia where university academics are involved in advising on school curriculum and assessment processes. Likewise, changes in the UK upper secondary school curriculum are discussed with both schools and tertiary education.

A third approach has been to revise upper secondary curricula to better prepare upper secondary graduates for tertiary studies. In the Netherlands for instance, policy measures have focused on shifting teaching methods from passive to active learning, as a way to build information gathering skills among future tertiary students[41]. In Norway and Sweden the general education content of upper secondary vocational curricula has been expanded, while in New Zealand, the government supports a national Curriculum Alignment Project.

Some countries have also introduced extension programmes offered by TEIs to upper secondary students. According to Figgis and Parker (2002), this increased interest of TEIs and upper secondary schools for such arrangements partly reflects the worldwide trend towards framing all education in terms of lifelong learning with a concomitant blurring on boundaries between sectors. Dual enrolment programmes allow high-school students to enrol in a tertiary course prior to graduation, giving them first-hand exposure to the requirements of tertiary-level work while gaining tertiary credits. Traditionally, these programmes have been reserved for high-achieving students, but some educators encourage their spread to middle and low-achieving students given the potential impact of advanced coursework on student motivation and future success in tertiary education (Rogers and Kimpston, 1992; Adelman, 1999; Figgis and Parker, 2002; Bailey *et al.*,

41 There is substantial debate going on in the Netherlands as regards the pros and cons of this shift. Indeed, information gathering skills seem to dominate at the expenses of discipline-related content.

2002). Extension programmes are found – albeit not on a systematic basis[42] – in Australia, China, the Netherlands, Norway and Sweden where upper secondary students may complete their final project or participate in research projects at a TEI.

Finally, other countries have developed programmes to facilitate extra-curricular acquaintances with tertiary education. For instance, the programme '*Ciência Viva*' in Portugal aims at developing interest in science and technology among of upper secondary students (www.cienciaviva.pt).

### Introduction of bridging and remedial programmes

Linkages between upper secondary and tertiary education also exist through the provision by TEIs of foundation, preparatory, bridging, repair and remedial programmes – depending on local terminology – for some groups of upper secondary graduates. Bridging education programmes are designed to assist students in developing the skills necessary for success in tertiary study. These programmes have been advocated by a number of educators as a way to enhance the preparation of tertiary entrants for tertiary studies and improve their performance (King and Kyle, 1993; Ramsay *et al.*, 1998; Högskoleverket, 2005). They have become increasingly popular and common among countries such as Australia, Belgium, Chile, the Czech Republic, Estonia, the Netherlands, New Zealand, the Russian Federation, Spain and Sweden.

In several countries, these bridging programmes are part of the broader equity agenda, and aim at broadening recruitment to tertiary education, and reduce dropout of students at risk, by virtue of their previous educational pathway (or lack of), socio-economic background, minority membership *etc.* (see Chapter 6). In Sweden for instance, TEIs have been allowed to offer bridging programmes since 2002. They are typically offered in partnership between a TEI and adult education or a folk high school, and intend to provide students with eligibility for enrolment as well as allow them to familiarise with tertiary education. Participants study at the upper secondary level for 20 weeks in order to acquire eligibility. For the remaining 20 weeks students are given the opportunity to try out advanced study. Likewise, Chile concentrates State support for remedial initiatives on institutions and study programmes attended by students with the greatest academic deficiencies. Equity considerations are prominent in Australia and New Zealand, while first steps on this issue have also been taken in the Czech Republic in recent years.

Bridging programmes have often emerged at the initiative of individual TEIs – as is the case in the Russian Federation – but are increasingly integrated in government tertiary education policy through financial support. In Belgium for instance, a 2004 decree on study financing entitles every student who qualifies for study financing to be supported financially for a bridging and a preparation programme. Bridging programme initiatives also receive public support in Chile, Estonia and Sweden.

### Promoting tracks from vocational secondary education to tertiary education

Several countries have taken steps to eliminate educational dead-ends in upper secondary vocational education since the 1990s, as a way to lay a better foundation for lifelong learning. This has involved tackling the barrier of study progression beyond upper secondary vocational education, and making it easier to progress from these

42 In Australia, 23 of the 37 universities that took part in Figgis and Parker's study had put in place one such programme in 2002 (Figgis and Parker, 2002).

programmes to tertiary studies (OECD, 2000). Indeed, improving the transition from vocational secondary education to tertiary studies is not only important for building up human capital throughout the population, it also has great potential to raise the profile of vocational education, better respond to the needs of industry and businesses, and expand participation rates of under-represented groups.

In Norway and Sweden the general education content of upper secondary vocational curricula was expanded, with the aim of giving students wider general and conceptual knowledge and skills. In Norway, a standardised qualifying 1-year course was developed for all upper secondary school leavers from vocational programmes that do not meet the general admission criteria to tertiary education. In Sweden, this was done by adding one extra year of study load to 2-year vocational programmes (Ekström, 2003). This approach proved effective, since Swedish students from nearly all vocational areas are now following through to further studies, although the importance of this track varies between secondary programmes (OECD, 2001a).

In other countries, tracks between vocational secondary education and tertiary education were created by relaxing tertiary education eligibility criteria. In Switzerland, the introduction of the professional baccalaureate in the early 1990s provided successful candidates with the capacity to enrol in Universities of Applied Science. With almost 20% of apprentices now taking the professional baccalaureate, this policy has considerably enhanced the permeability of educational pathways. But the decisive breakthrough came with the introduction of a bridge between upper secondary vocational education and the university system, whereby holders of a professional baccalaureate can pass a supplementary general education exam that grants them access to university. Yet in another fashion, current reforms in the Estonian vocational education system provide for tertiary education attendance on the basis of competencies. This latter approach can be especially important to raise the participation of adults in tertiary education. Developments in Spain and Sweden go in the same direction (Perotti, 2007).

Finally, extension programmes – discussed above – are another instrument available to policy makers to build pathways from vocational secondary to tertiary education. Offering tertiary-level studies in vocational upper secondary schools may indeed acquaint students early with the teaching and learning methods found at tertiary level, and raise their study aspirations by de-sacralising tertiary study.

*Adapting to changing demands of the economy*

The transition of most OECD countries to knowledge economies has wide-ranging implications for tertiary education provision. Indeed, the increased speed of change characteristic of the new economy increases uncertainty, and requires the constant renewal of skills. To adapt and maintain competitiveness, companies need appropriate organisational structures, a skilled workforce and able management. The type of labour required is thus changing, with the rising educational level of the OECD workforces as its most obvious manifestation. But while academic knowledge and cognitive competencies are important, they are also becoming insufficient. From a labour market perspective, there is also a new and distinct demand for a certain set of complementary skills in light of the introduction of new work practices. These include the ability to use ICT, to solve problems, to work in teams, to supervise and lead and to undertake continuous learning (OECD, 2001b). A key challenge for tertiary education systems is thus to identify and adjust to these changing demands from the economic world. This entails building stronger

linkages with labour markets. This section briefly sketches the key issues in this respect, but a more detailed analysis is found in Chapter 9.

### The advent of multidisciplinarity, multiple careers and growing importance of lifelong learning

A first aspect relates to the growing need for interdisciplinarity. As Jacobs and van der Ploeg (2006) rightly point, "in the complex society in which we live there is a growing demand for people who can combine different disciplines and points of view. Much technological and economic progress in contemporary society occurs in the twilight zone between different disciplines." This new pattern has implications for tertiary education which has to respond flexibly either by offering combined degrees, or allowing students to select courses from different disciplines towards graduation based on their own perceived career needs. In Australia for instance, under-graduate programmes combining Law/Arts, Engineering/Law or Science/Engineering are now common and usually involve selective admissions.

Another key feature of knowledge economies is the advent of multiple careers (Cheng, 2006, 2007). As a result there is pressure on tertiary education systems to prepare students for a life world of much greater uncertainty and complexity involving frequent occupational, job and contract status change, greater probability of self employment, global mobility, adaptation to different cultures and working in a world of fluid organisational structures (Gibb and Hanon, 2007). As future labour market needs are difficult to predict, lifelong learning comes to the forefront as a way for individuals to upgrade their skills throughout their life (European Commission, 1996; Perotti, 2007). In this scenario, tertiary degrees are no longer regarded as a voucher for life-long employability but merely an entry ticket into the world of work.

In a lifelong learning perspective, employers draw on graduates with a broad base of skills that, with in-house professional development, can be adapted to rapidly changing work contexts. This calls for tertiary programmes' content putting emphasis on the development of a broad set of skills among graduates. As a matter of fact, Wojcicka (2004) notes that the reform of vocational post-secondary education in Poland was founded on the principle of a broadly-profiled education, which is intended to support flexibility and vocational mobility throughout the career.

### Promoting flexibility of provision to adjust to the needs of new clients of tertiary education

But meanwhile, the increasing need for lifelong learning and job-specific training also entails that tertiary education providers have to devise offerings suited to the needs of new clients, developing targeted and more individualised training opportunities in parallel to broad-based competencies. Two issues are critical in this respect. The first relates to diversifying provision to reach adult learners through continuing education and lifelong learning offerings. In addition, there is also a need for industry-based types of provision whereby employers can get their workers' skills upgraded. And indeed, it has been shown in the Swedish context that the strategic role of education became much more important as a tool for meeting unforeseen demands in the labour market from the early 1990s (Askling and Foss-Fridlizius, 2000; Bladh, 1999). Likewise, sectoral industry organisations spend 3 billion euros per year on education and training provided by TEIs (see Chapter 9).

With respect to participation of adults, a first policy lever focuses on opening up tertiary education access criteria. Given that one-third of working-age adults in the OECD countries have low skills, up-skilling the workforce and lifelong learning are particular challenges, and require specific measures to allow adults gain access to tertiary-level studies. In several countries, this has been achieved by setting up a special examination for adults to gain eligibility for tertiary studies. Another approach consists in allowing access on the basis of non-formal and in-formal learning. The French *Non-formal Experience Validation* (VAE) is an interesting initiative in this respect. Elsewhere in Europe, Belgium, Finland, the Netherlands, Norway, Sweden and the United Kingdom have like initiatives (Colardyn and Bjornavold, 2004). The development of flexible credit transfer schemes is another option to facilitate participation of adults, who often cannot invest the same time and effort in tertiary studies as traditional students (see below).

In terms of framework conditions, one critical issue relates to the degree of flexibility that the quality assurance framework gives TEIs in establishing new programmes (see Chapter 5). A related consideration is the degree of autonomy that TEIs have in hiring staff when setting up a new programme (see Chapter 8). Allowing TEIs to raise private funds from such activities as industry training can also constitute a powerful incentive (see Chapter 4). Finally, institutional behaviour can be shaped towards the development of flexible and diversified programmes through various steering mechanisms, ranging from the specification of this goal in TEIs performance agreements to various financial incentives and rewards (see Chapter 4). In Chile for instance, the project *Chilecalifica* – a joint initiative of the Ministries of Economy, Education and Labour initiated in 2002 – aims at encouraging TEIs to offer technical training to adults and young people within the framework of lifelong learning, by financing project networks to design and implement modular training proposals.

### Involving employers

Another strategy to enhance linkages with the economic world is to involve employers and professional associations in tertiary education policy design, curricula, and even delivery. With respect to policy design, some countries have created formal structures to enhance communication and collaboration between the business, industry and tertiary education sectors. This is for instance the case of Australia, where the Minister for Education established a *Business, Industry and Higher Education Collaboration Council* (BIHECC) in 2004. The *Business and Higher Education Round Table* (B-HERT) also provides a forum for business, research, professional and academic leaders to exchange and pursue initiatives to improve the performance of both business and tertiary education.

Employers may also be involved in the design of tertiary curricula. Such involvement is more common in vocational programmes leading to professions where a license is needed to work than in more academic fields of study. Professional associations often monitor the extent to which TEIs are meeting the needs of their profession and set standards for professional registration. As a result, many of these bodies have a direct influence on course design – as is the case in Australia. Finally, employers may be involved in the actual delivery of tertiary education programmes, either through work placement and traineeships as part of tertiary curricula, or the recruitment of industry employees as adjunct professors by TEI. This approach is more common in vocational programmes – especially those in the medical and scientific fields (see Chapter 9).

### *3.5.2 Linkages with surrounding regions and communities*

Most TEIs strive towards teaching and research activities of national and international significance. At the same time, however, most of them play a role in supporting regional development, through the provision of human capital to sustain local social infrastructure and meet the needs of local industry, collaborations with local and regional business and industry, and contributions to the regional/local cultural scene, social communities and environment.

This regional contribution of tertiary education has grown in importance in recent years. National policies are now explicitly trying to identify how to make TEIs contribute more to regional development and skill enhancement, and devise strategies to actively support the regional engagement of TEIs. At the same time, institutions themselves see increasing benefits to collaboration with regional actors. A thriving local environment brings business to TEIs in the form of student enrolments, research consultancy, training needs of local industry, and helps institutions attract and retain staff and students (OECD, 2007b).

This section therefore reviews national strategies designed to enhance linkages of TEIs with their surrounding regions and communities, *i.e.* the overall regional role as one of the missions of TEIs. Given the national stance of the Thematic Review and the focus of this chapter on governance issues, greater emphasis is placed on strategies at national level to encourage the engagement of TEIs with their surrounding environment, relative to their actual contribution. This important aspect has however been comprehensively explored in a recent OECD study of TEIs' contribution to regional development that draws upon the experiences of 14 regions spread across 12 countries (OECD, 2007b). In addition, some more specific aspects of regional engagement are covered in the other chapters of this report, in relation to financial incentives for regional engagement (Chapter 4), TEIs' role in reducing regional disparities in provision (Chapter 6), their role in regional innovation (Chapter 7) and in responding to local labour market needs (Chapter 9).

#### *Impact on regions and local communities*

There are several ways in which TEIs impact on their surrounding regions and communities. Firstly, TEIs are often large employers and consumers of goods and services within their local area, and they also stimulate local demand through the daily expenses of their staff and students. But in addition to this direct impact on the local economy, TEIs also induce a number of indirect knowledge spillover effects on their environment. These indirect contributions lie in their role in the formation of human capital and upgrading of skills within the region, the promotion of entrepreneurship among graduates, the provision of technology and research services to local firms, and a number of other contributions to the social, cultural and environmental advance of the region.

##### Direct economic impact on local demand and employment

The first and most obvious effect of TEIs on their regions and communities derives from their impact on the local economy, as employers, customers and suppliers of goods and services to local firms. TEIs are often large employers within their local labour market, requiring not only teaching and research professionals but also significant numbers of administrative staff, technicians and maintenance personnel. As an

illustration, the University of Otago (New Zealand) employed more than 3 000 full-time equivalent (FTE) staff to teach some 17 500 FTE students in 2004, making it one of the largest employers of the South Island. As such, TEIs can make a unique contribution to urban or rural regeneration in peripheral economically distressed regions (Cumpston *et al.*, 2001).

In addition to the jobs generated directly, by the TEIs themselves, significant regional job creation results from the consumption of TEIs on infrastructures, repairs, equipment and utilities as well as their contracting out catering, cleaning, financial or other services. The expenditure of the lively communities of staff and students on and around campus, for housing, living expenses, social and leisure services can also make an impact at local level, especially so in economically depressed regions.

#### Indirect impact and knowledge effects

In addition to these expenditure-related backward linkages, Felsenstein (1996) distinguishes forward linkages – or contributions of TEIs to their surrounding regions through the diffusion of knowledge and expertise. These knowledge effects take several forms. Firstly, TEIs usually constitute the main vehicle at regional level for the transfer of knowledge and high-level skills which local businesses critically need for innovation and commercial success in the knowledge economy. This human capital contribution of TEIs consists not only in satisfying the local demand for high-level skills, but also in stimulating and developing entrepreneurship and innovativeness among graduates, and hence retaining them in the region. Secondly TEIs, and especially those with a medium or high research profile, can engage in various types of collaboration with local industry in research, or conduct research which is useful for the region. In doing so, they contribute to the region's comparative advantage in knowledge-based industries. But regional development is not only about economic growth, and the third knowledge effect lies in the contribution of TEIs to the social, cultural and environmental advance of their region.

### Supply of human capital to the regional labour market

The importance of human capital for innovation and the significance of threshold effects in this respect are supported by a wide strand of literature on endogenous growth (Aghion and Howitt, 1998; OECD, 2001c). These models of economic development often stress the crucial importance of pooled knowledge and innovation clusters to induce positive externalities and sustained economic growth. In this perspective, the availability of highly-skilled workers in the regions is decisive to stimulate innovation and the development of value-added industries. In this respect, TEIs contribute to building a critical mass of human capital in surrounding regions through their traditional education role, but not only. TEIs also play a role in building regional human capital through widening access to tertiary education to larger segments of the population, providing industry training and lifelong learning opportunities to adult workers, developing entrepreneurship among graduates and hence helping retain talent and over time, build up the attractiveness of the region to knowledge-intensive industries and workers (OECD, 2006b).

### Provision of technology and research outputs

The second strand of indirect knowledge effects of TEIs on surrounding regions and communities derives from the conduct of region-specific or region-relevant research as

well as various types of research collaboration between TEIs and local businesses and industries. This provision of technology and research outputs to the surrounding community builds up the region's comparative advantage in knowledge-based industries, and hence contributes to the development of innovation clusters. For instance, over 1 000 high-tech and IT companies have clustered in the area around Cambridge University which has been dubbed 'Silicon Fen'. There is also evidence of TEIs engaging in region-specific or region-relevant research. For instance, the University of the Sunshine Coast in Australia has built a critical mass in subjects of regional relevance for which the local environment provides an interesting laboratory – coastal studies, marine tourism, and plant/marine biotechnology, while medical research in North-England TEIs is geared at addressing region-specific health issues (OECD, 2007b).

Porter (1998) highlights the colossal economic opportunities stemming from enhanced relationships between TEIs and industry through the development of innovation clusters, *i.e.* the agglomeration of research and economic actors around a shared technology to capitalise on their critical mass. While the Silicon Valley and Hollywood are the best-known examples of such innovation clusters, countries participating in the Review also display similar agglomerations of industries around a university or research institute. This is for instance the case of the Food Valley in the Netherlands, which regroups some 70 agro and food companies around Wageningen University. Likewise, the University Jaume I in Spain helps the Valencia region transform its traditional SME-based ceramic tile industry into a global leader (OECD, 2007b).

### Other contributions to socio-cultural and policy development

But regional development is not only about economic growth, and the third knowledge effect lies in the contribution of TEIs to the social, cultural and environmental advance of their region. TEIs' impact on surrounding communities also lies in their contribution to health and social care provision, the development of cultural facilities such as museums and libraries, the revitalisation of social capital through staff and student involvement in community associations as well as environmental development (OECD, 2007b).

The presence of TEIs may improve healthcare and social services in the region. For example, tertiary education activities may enhance health and social infrastructures and their quality, *e.g.* medical schools investing in the latest state-of-the-art pre and peri-natal care technology to provide students with up-to-date training (Cumpston *et al.*, 2001). Community service by students is another example. In Mexico, this contribution of students to their region or community is even institutionalised through a compulsory requirement of 480 hours of community service (OECD, 2007b). TEIs can also revitalise the cultural life at local level. This contribution to cultural development takes place through opening to the wider public a range of cultural infrastructures such as museums, libraries, orchestras, auditoriums, parks and sporting facilities *etc*. Staff and student communities also provide content and audience for cultural programmes and hence strengthen local cultural provision.

Box 3.6 provides examples of contributions to regional development by TEIs.

**Box 3.6. Multiple facets of TEIs' regional engagement: Australia, Korea, Mexico, the Netherlands, Spain and the United Kingdom**

*Contribution to regional human capital formation*

In **Korea**, the *Family Firm System* implemented at Dongseo University since 2004 is one example of how TEIs can provide targeted programmes that address specific regional development needs and also link students and graduates with local employers. A senior academic mentor is designated to 5 companies which offer students and graduates internship and job opportunities. The system has attracted 556 companies which have benefited from the close cooperation through reduced recruitment and induction costs. The system is supported by the state through the NURI project (see Box 4.2).

In the **Netherlands**, the University of Twente's *Temporary Entrepreneurship Position* (TOP) programme showcases how TEIs can contribute to the development of entrepreneurship in the regions. It was launched in 1984 to assist university graduates, staff and people from trade and business to start their own companies. TOP participants must a) have a concrete idea of knowledge-intensive or technology-oriented company that can be linked to the fields of expertise of the university; b) be available for a minimum of 40 hours a week; and c) have a business plan that meets a number of set requirements. During the one-year support period the TOP entrepreneur receives office space and facilities, access to networks, a scientific and a business manager, and an interest-free loan of EUR 14 500. The loan has to be repaid within 4 years starting in the year after leaving the programme. Although the programme was initiated at the University, it receives financial support from the Dutch Ministry of Economic Affairs and the European Social Fund.

*Contribution to regional innovation*

In the **United Kingdom**, the collaborative actions of the five universities of the North-East of England (Durham, Newcastle, Northumbria, Sunderland and Teesside) through the higher education regional association (Unis4NE) provide a remarkable example of how TEIs can work together to address shared problems in the region ranging from low skills to low R&D base of local companies. They jointly established the Knowledge House in 1995 – along with the Open University in the North – a one-stop-shop which helps companies access the combined skills, expertise and specialist resources. The Knowledge House receives over 1000 enquiries from client companies and delivers around 200 client contracts on an annual basis. It receives funding from HEFCE.

In **Spain**, the University Jaume I in the Valencia region showcases how partnerships between TEIs and local industry can help upgrade entire sectors of the regional economy. The University has established links to the traditional tile and ceramic industry which comprises 500 businesses, mostly SMEs employing 36 000 people in the region. The links have been mediated by the Institute for Ceramic Technology, a not-for-profit association formed by an agreement between the University Institute for Ceramic Technology and the Ceramic Industry Research Association. They jointly use the facilities, equipment, materials and staff that make up the research infrastructure. The partnership has been supported by national and regional governments and enabled the region to become a global leader in the industry.

*Contribution to local communities, culture and environment*

In **Mexico**, the University of Monterrey's collaborative programmes with low income communities and social work institutions over the past 20 years provides an illustration of how TEIs can play a role in community development. This remarkable effort towards social commitment and responsibility is facilitated by the federal government's requirement of mandatory student social service as a graduation requirement. Social service lasts between 6-12 months but the duration is in no case less than 480 hours. While there are national concerns about the way social service is operationalised, it has potential for much impact on Mexican society and has generated good results in mainstreaming community service activities into the core business of TEIs.

In **Australia**, the University of the Sunshine Coast showcases how TEIs can build critical mass on research of local relevance or for which the local environment provides an interesting "laboratory" or case study – *i.e.* coastal studies, marine tourism, and plant/marine biotechnology. A regional advisory board brings community, business leaders and researchers together to engage in identifying priorities. The Institute for Sustainability, Health and Regional Engagement (iSHARE) has provided an institutional framework for this, thanks to several research grants from the public sector and significant private sector support from *the Kingfisher Bay Resort*.

*Source:* OECD (2007b)

*Developing a strategy to enhance the regional engagement of TEIs*

There seems to be a high level of awareness of the potential benefits of closer partnerships between national, regional, institutional and business spheres, but limited initiatives on the ground. As noted by McAllister (1997), because an establishment provides services within a regional setting does not mean its priorities are necessarily shaped by the needs of the region or of the communities in it. Most countries are still at early stages of partnerships between TEIs and regional public and private sectors, with isolated small scale and short term initiatives promoted by key individuals with limited support from central governments. And indeed, the OECD study of TEIs' contribution to regional development has identified a number of obstacles to a more active engagement of TEIs with their surrounding regions and communities (OECD, 2007b). This raises the question of how can national policy support the development of stronger linkages between TEIs and their surrounding regions and communities. Country approaches suggest several directions to enhance the regional engagement of TEIs.

Current barriers to regional engagement

According to the OECD study on TEIs' contribution to regional development, the active engagement of TEIs with their regions is often constrained by the lack of explicit orientation of public policy towards that goal, inadequate incentive structures for regional engagement, limits to autonomy and leadership within TEIs, and the limited capacity of local and regional actors to have a say in TEIs' strategic directions (OECD, 2007b).

Inadequate incentive structures in terms of funding and quality assurance are common impediments to a deeper engagement of TEIs with their surrounding regions. The strong focus on research excellence in research budget allocations and academics' promotion criteria fuels the search for world-standard academic excellence. Likewise, insufficient regard to regional impact in funding formulas and quality evaluation criteria inhibit tertiary education systems' ability to resist and counteract these academic drift forces (see Chapters 4, 5, 7 and 8). In such circumstances, regional engagement depends on TEIs' initiatives, but in some countries, regulations reduce the capacity of TEIs to engage regionally, *e.g.* due to legal constraints preventing them from diversifying their funding sources and turning to private external funds. Administrative-based tertiary education systems in particular leave little scope for institutional autonomy and flexibility. Inadequate strategic leardership can be another limitation.

The framework conditions in which TEIs operate are not always supportive of regional engagement. Institutional governance structures are in many instances ill-suited to furthering the regional agenda of TEIs. This is especially so when local governments and stakeholders have limited capacity to take part in TEIs' strategic governance. Insufficient interaction with local stakeholders also impedes knowledge spillover effects, as firms may lack sufficient information to track down the appropriate expertise within the TEIs.

In this context, how can national policy provide the framework conditions and appropriate incentives to enhance linkages between TEIs and their regions and communities? The experiences of countries participating in the Review provide useful insight into the factors that affect the degree and depth of regional engagement, and provide directions on possible strategies to overcome current barriers.

Country approaches to enhance the regional engagement of TEIs

There is a marked difference between countries in how tertiary education systems are steered at the national level and what weight is given to the regional dimension. In the more market-driven systems there is an increasing tendency to expect TEIs to be entrepreneurial and create partnerships to raise funds from the private sector. This may encourage them to work closely with regional actors, but may also hinder their regional engagement in non-profit activities. In more centralised systems by contrast, the lack of autonomy of TEIs may disconnect them from local partners and policy makers need to devise appropriate incentives for TEIs to engage in regional activities. Overall, countries taking part in the Review have adopted various legislative, steering and incentive schemes to foster the regional engagement of TEIs.

**Formal requirement for regional engagement in legislation or TEIs' missions**

If policy makers count on TEIs to play an active role in their regions, making this regional role explicit can be a driving force, by providing a clear signal of expectations. Several countries have thus included a formal requirement for TEIs' regional engagement in the national legislation governing tertiary education, or alternatively encouraged TEIs to adopt this third role in their mission statements.

In Sweden for instance, the parliament amended the law governing TEIs in 1997 and universities are now instructed to undertake – in addition to teaching and research – an additional role of "cooperation with the outside world and promotion and development of the society at large". This third role obliges them to interact more closely with their environment (OECD, 1999). Likewise, the Higher Education Act of the Czech Republic stipulates that TEIs "contribute to development on both the national and regional levels while cooperating with various levels of the state administration and municipalities as well as in the areas of industry and culture". Similar formal requirements for TEIs' role in regions exist in the legislations governing TEIs in Finland, the Netherlands and Norway for university colleges (see Box 3.7 for the case of Finland; and OECD, 2007b).

**Box 3.7. Formal requirement for tertiary institutions' regional engagement in Finland**

In Finland, the regional and societal missions of TEIs are stipulated in the legislation.

The Universities Act of 2004 stipulates that "In carrying out their mission, the universities shall interact with the surrounding society and promote the social impact of research findings and artistic activities". Similar provisions are found in the Polytechnics Act which states that "one of the missions of polytechnics is to conduct research and development which supports regional development and is geared to the industrial structure of the region". The Act further specifies that "in executing its mission, the polytechnic must cooperate with industry and working life especially within its own region, with Finnish and foreign universities and other educational institutions".

In addition, legislative texts also include provisions on the composition of tertiary institutions' governing board and the representation of regional stakeholders. The Universities Act provides that at least one member of the university senate and up to one third of the members must be selected amongst persons who are neither personnel nor students of the university. The Polytechnics Act similarly stipulates that at most one third of the members of the board of the polytechnic may be representatives of business, industry and other working life.

In another group of countries, regional and community engagement is left to the discretion of TEIs themselves. However the expression of TEIs' regional engagement in their mission statements sets expectations about such role which is likely to improve commitment. For example, many universities in regional areas of Australia have missions that are closely linked to their regions and this link is enshrined within the legislative acts

under which they operate. Another type of formal requirement can be found in Mexico, where a unique scheme of mandatory social service has been introduced in graduation requirements for all students in public (and some private) TEIs. As part of their tertiary studies, students must provide 480 hours of service to their surrounding communities.

### Differentiation of institutions

Another way in which some tertiary education systems have anchored the regional role of TEIs has been the establishment of distinct types of TEIs with explicitly differentiated roles. This strategy has often taken place as part of the expansion wave, through the creation of new TEIs to accommodate new demands from the economy and society. In the establishment of these new TEIs geographic location was an important aspect to be considered (see Section 3.4).

In this logic, extensive and flexible diversification among TEIs may provide countries with a wider capacity to address varied national and regional needs, and the regional role of institutions serves to differentiate among various types of TEIs. In Portugal for instance, universities are generally considered to have a national role while polytechnics are assumed to have a more regional role, taking regional demand and needs of local industries into account. Similarly, TEIs in Poland may be divided into two groups, the first one comprising large and prestigious university-type institutions whose influence is national or international while the second group includes all other TEIs which operate mainly at regional level.

### Incentive structures: funding, initiatives and rewards for regional engagement

Fostering the regional engagement of TEIs in general implies to devise appropriate incentive structures for TEIs to respond by deepening linkages with their regions and surrounding communities. In this respect, several mechanisms interplay, in terms of funding, quality assurance and overall governance of the tertiary education system.

Funding schemes are a first instrument by which central governments may support the regional engagement of TEIs, and hence persuade some or all them to make regional development an attractive part of their central business. Some countries have thus introduced a regional loading in funding formulas. This is for instance the case in Australia, where regional loadings were introduced in funding formulas in 2004, in recognition that regional universities incur additional costs because of their location, find it more difficult to maintain economies of scale, and are remote from industry support and funding. Regional loadings are also found in Finland, Japan, the Russian Federation and indirectly in Spain through consideration to income received from non-public sources (see Table 4.3).

Another way in which the allocation of funds may anchor the regional mission of some types of TEIs is to explicitly demarcate the system into separate sectors with diversified funding regimes, as a way to avoid the establishment of a formal or informal single hierarchy between institutions. Indeed, competition between TEIs for research and teaching funds allocated on uniform criteria inevitably leads to greater attention to meeting international standards to the detriment of regional activities. Finally, targeted fund mechanisms can be used to reward regional engagement of TEIs, as is the case in Korea with the *New University for Regional Innovation* (NURI) project (see Box 4.2 and Clark, 1998). Australia has similar mechanisms in place through the *Higher Education Equity Support Programme* and the *Collaboration and Structural Reform Fund*.

There are similar arguments in favour of a modulated incentives scheme – *i.e.* sensitive to activities and initiatives beyond those defined simply in terms of academic output and scholarship – in quality assurance and academic career evaluation criteria. Without denying the paramount importance of scholarly excellence and meeting minimum quality standards in TEIs and staff evaluations, those criteria are not sufficient in the case of TEIs with a regional remit. As put by regional partners in the Icelandic context "Farmers do not read peer-reviewed journals". The use of differentiated criteria in quality assurance and staff evaluation procedures may provide incentives for TEIs and their staff to stick to their regional mandate.

Finally, the overall governance and steering of the tertiary education sector may also provide incentives for regional engagement, notably by setting up barriers to inhibit – or even prohibit – movements of TEIs from one sector to another as a way to discourage academic drift. Meanwhile, incentive schemes may be put in place to encourage inter-institutional cooperation, so that TEIs – and especially the smaller ones – engage with larger or more elite institutions and reach critical mass. And indeed, governments often encourage the cooperation between institutions located in remote areas with institutions based in the main population agglomerates. This can be achieved for example through joint-degrees, common research projects, exchange of students, or the joint involvement in the establishment of the broader strategies for regional development.

### Level of autonomy and institutional leadership

The characteristics of the central system significantly influence the ability of TEIs to respond to growing demand and to engage in regional development. Some TEIs operate within a national system that grants them much institutional autonomy in terms of the orientation of teaching and research activities, while for others the regulatory framework exerts a strong influence on their orientation. In recent years, several governments have implemented reforms to grant more autonomy to TEIs and stimulate competition among them in order to raise the quality of tertiary education (see Section 3.3). This direction of policy also has the potential to stimulate regional engagement of TEIs because in such a competitive environment many institutions would choose the direction towards more local contribution to become indispensable organisations in their communities. This is one of the aims of the *Quality Reform* in Norway, where competition among TEIs to attract and retain students is deemed to serve regional development through programme more tailored to regional needs.

### Supportive framework conditions

Regional engagement can be strengthened by reinforcing the framework conditions in which TEIs operate, and making them more supportive of the regional mission. This can be achieved in several ways. A first consideration relates to the level of government with oversight and responsibility for TEIs. Decentralisation policies – as the ones experienced in Spain between 1985 and 1997 and in Japan in 2000 – naturally enhance the regionalist focus. Such reforms may influential in systems where TEIs have limited autonomy.

A common strategy is also the inclusion of regional stakeholders in the governance structure of institutions. Indeed, the understanding of regional problems by the institutions Governing Boards fosters their growing attention. In Portugal for instance, the new legislation promotes the role of regional authorities in the governance bodies of public polytechnics, while both polytechnics and universities include external stakeholders in their governance bodies.

Promoting interactions between TEIs and regional policy makers is another approach to enhance mutual understanding between them and promote dialogue on regional issues and what role can TEIs play to address them. Several initiatives can be mentioned in this respect. In England for instance, regional development agencies have been established in each of the 9 regions, and they are increasingly seeking to mobilise TEIs in support of economic development, in particular in shaping regional development strategies (OECD, 2007b). In Mexico, *State Commissions for Higher Education Planning* (COEPES) have been set up to manage tertiary education planning at the regional level so that the institutions can reflect community needs and those of the local productive sector effectively, and their role strengthened since 1997. Likewise, the promotion of interactions between TEIs and regional business and communities can have a like impact on mutual understanding and enhanced cooperation.

### *3.5.3 Linkages within the tertiary system*

The one-size-fits-all model is no longer relevant, and this feature makes it increasingly challenging for TEIs to operate in isolation. As a result, many governments seek to encourage TEIs to collaborate and co-operate with each other to successfully address this challenge. Meanwhile, they also want to encourage student mobility as a way to stimulate quality and responsiveness within the system, and to allow students grasp the full benefits of flexible and diversified learning pathways.

#### *Co-operation between TEIs*

There are mainly three broad rationales for governments' willingness to foster inter-institutional co-operation. The first rationale encompasses a number of motivations related to enhancing the contribution of tertiary education to the knowledge economy. Greater co-operation between TEIs is sought to allow TEIs reinforce their areas of strength, build-up critical mass and develop world class research, enhance teaching quality, and develop research networks and centres of excellence in areas of national priority. Another justification for TEIs' co-operation is to achieve some rationalisation and improvements in the cost-effectiveness of tertiary provision in the context of struggling public budgets. In this logic, emphasis is put on issues of sharing infrastructures, avoiding unnecessary duplication of offerings and rationalising the use of academics. Finally, a third rationale for enhancing co-operation between TEIs is to better serve their regions and diversify the range of programmes offered at regional level.

#### Co-operation towards the knowledge economy

Co-operation between TEIs has great potential to enhance the contribution of the tertiary education system to the knowledge economy – in which a nation's comparative advantage results from its ability to carry out leading-edge research and innovation in a number of key sectors (see Chapter 7). Co-operation between TEIs can support this goal by achieving critical mass in research, and contributing to the development of centres of excellence drawing on the best experts from a range of different TEIs. In New Zealand, for instance, the government established *Centres of Research Excellence* (CoREs) in 2002 to incentivise universities to collaborate with each other and with other research organisations. In Australia, the CSIRO *National Flagships Initiative* equally supports infrastructure and networks necessary for world-class research. Policy initiatives have also focused on encouraging the development of research networks – both inter-

institutional and inter-disciplinary – especially in areas of national research priority. In Australia, the national competitive grants programme of the ARC was restructured into two key elements – *discovery* and *linkage*. Both support collaboration with researchers in other universities while the second additionally encourages cooperation with partners in business and industry, government, and/or the NGO and community sectors. But financial incentives are only one option for policy makers. Research networks can also be stimulated by improving academic staff mobility. The creation of centres of excellence, the development of joint degrees between TEIs, the easing of staff regulations to facilitate mobility with industry and adequate incentives for co-publications are important policy levers in this respect.

Co-operation between TEIs may be equally important as a way to improve teaching quality. Here, the underlying principles are that co-operation may help TEIs concentrate on their areas of strength – this is a prominent rationale in the case of Sweden – as well as allow them to generate economies of scale – as evidenced by the *Tertiary Accord of New Zealand* (TANZ) grouping. TANZ was launched in 2000 and links Christchurch Polytechnic Institute of Technology, Manukau Institute of Technology, Otago Polytechnic, and the multi-campus Universal College of Learning. These various TEIs collaborate on such projects as course material design, qualification design and development and online programme delivery.

Finally, inter-institutional co-operation may contribute to the knowledge economy by facilitating flexible learning pathways, and hence helping individuals regularly upgrade their skills. A noteworthy policy initiative in this respect is the creation of *associations* between TEIs in Belgium (Flemish Community). These new legal bodies were established in 2003 as not-for-profit institutions in which at least one university of applied science and no more than one research-intensive university share some responsibilities, including guidance for students and the co-ordination of transfer opportunities between bachelor degrees offered in universities of applied science and master courses offered by the research-intensive university. TEIs are encouraged to enter in such co-operative agreements through provisions that prevent universities of applied science to organise academic bachelor and master courses outside of an association.

### Co-operation towards rationalisation and efficiency

A number of systems are also seeking to enhance co-operation between TEIs as a way towards the rationalisation of provision and hence a more efficient operation of the system. This second rationale for inter-institutional co-operation has been particularly prominent in New Zealand, where the government set up a *Collaborating for Efficiency* project in 2001 (TEC, 2003).

A key aspect of this approach has relied on sharing educational infrastructures. There are many examples in Australia, New Zealand and Poland of TEIs – especially in regional areas – sharing educational facilities and/or developing educational precincts to create a tertiary education presence that might not have been sustainable through stand-alone facilities (Shoemaker *et al.*, 2002. Likewise, regional TEIs in Poland increasingly conclude agreements to share library resources or laboratories.

Co-operation is also often sought as a way to rationalise tertiary education offerings by avoiding duplication of programmes within regions, and enhancing the scope for multi-disciplinarity. In this logic, co-operation and co-ordination between TEIs are viewed as a means to develop synergies and improve the offer of services for regional

clients. Where there are similar TEIs within one region, co-ordination allows specialisation between them, sharing of best practice and avoidance of harmful competition. The rationalisation of provision has been a significant underlying motivation for the constitution of associations between universities and *hogescholen* in Belgium (Fl. community).

### Co-operation towards regional contribution

Yet, the rationalisation argument has to be balanced against considerations of equity, as the closure of duplicate programmes may weaken access to tertiary education in remote regions (see Chapter 6). And indeed, the regional contribution of tertiary education is another area where co-operation between TEIs can make a difference. In the United Kingdom, groups of universities and colleges are being formed on a regional basis with the aim of making a maximum contribution to the local and regional economy. In Australia, this is encouraged since 2005 by the *Collaboration and Structural Reform Fund* (CASR) which supports collaboration of TEIs with their regional or local communities and local governments such as the University of Tasmania with local government in the Cradle Coast region to establish an Institute for Enterprise and Regional Development.

### *Student mobility towards system quality and responsiveness*

Interestingly, while the above discussion has shown how the governments of many countries taking part in the Review seek to encourage co-operation of TEIs, a number of countries also seek to enhance market-type mechanisms at the same time. In this logic, competition between TEIs is viewed as a way towards quality improvements and greater responsiveness as greater reliance on market signals brings a shift in decision making power from TEIs – and especially from the faculty – to the consumer or client, whether student, business, or the general public (Johnstone *et al.*, 1998; Kaiser *et al.*, 1999). A key dimension in this respect relates to student mobility between TEIs. Indeed, as put by Jacobs and van der Ploeg (2006), "if students can vote with their feet, this will discipline TEIs".

At the same time, student mobility between sectors can also contribute to the creation of more flexible learning pathways. Vocational TEIs can provide flexible entry points, offer remedial and foundation programmes for those lacking entry prerequisites, and provide programmes at several levels to allow individual students to meet a range of learning needs within a single institution (OECD, 2001a).

Yet, the extent of these benefits in terms of responsiveness of TEIs and flexibility of learning pathways critically depends on the existence and smooth functioning of credit transfer mechanisms whereby students can move between TEIs – within or across sectors – while keeping the benefits of study credits obtained. Consequently, credit transfer mechanisms constitute a key instrument to encourage student mobility.

### Credit transfer schemes between TEIs

Evidence from the countries taking part in the Review confirms results of previous OECD work on this theme *i.e.* that credit transfer arrangements between sectors of tertiary education have not been easy to negotiate and their translation into actual student flows has generally proven problematic (OECD, 2001a).

Their impact is generally difficult to assess insofar as most countries report data gaps in this area. Nevertheless, the limited evidence which is available suggests that the extent of credit transfers is generally limited, with between 2 and 4% of vocational tertiary students eventually moving to a university course in Australia, China, the Netherlands and Portugal. Moreover, evidence from Australia suggests that pathways from vocational tertiary education to university have been less common towards the elite institutions from the "Group of Eight" than to other universities. Norway and Sweden are exceptions to these low levels of mobility. In Norway, between 10 and 20% of students change TEIs during the course of their studies, mostly from universities to university colleges during the first three years while the flows reverse afterwards (Roedelé and Aamodt, 2001). In Sweden, student mobility – within a unitary sector though – concerns about one quarter of students, who graduate from a different TEI than the one they first enrolled in (Högskoleverket, 2001).

### Country approaches to enhance credit transfer mechanisms

The national country experiences of participants in the Review also pinpoint to a number of factors likely to facilitate the establishment or functioning of credit transfer schemes. The most common policy lever used by countries participating in the Review to enhance credit transfer mechanisms and hence student mobility has been through explicit reference in the legislation. Finland, Iceland, Korea, New Zealand, Norway, Poland, the Russian Federation and Sweden have adopted formal legislative requirements for TEIs to facilitate credit transfers. In Norway for instance, there has been mandatory recognition of credits between TEIs since 1981. In Iceland, the Universities Act includes provisions for TEIs to set regulations on mutual recognition of parts of study programmes. Consequently, public universities entered into a formal agreement in April 2003. Nevertheless, transfer from one course of study to another or from one institution to another is always subject to the approval of the academic authorities of the receiving faculty or institution, and often involves some loss of credit earned.

In order to improve TEIs' commitment to student mobility beyond rhetoric, enforcement mechanisms can be effective, as illustrated by the Swedish experience. In 2001, student entitlement to transfer was increased when a new provision required a substantial difference between programmes for credit transfer to be denied. The provision was enforced by ascribing the burden of proof for denial to the crediting TEI.

Quality assurance requirements have proved to be another effective enforcement tool. Institutional credit transfer systems and practices have been included in the quality monitoring criteria in Australia, Korea and New Zealand. In Korea, evidence suggests that the introduction of the student credit transfer system in the list of review criteria contributed to the active promotion of the *Credit Bank* system by TEIs. Policy intervention has also focused on establishing supportive framework conditions for credit transfers. In Korea, New Zealand, Scotland and Sweden, the approach followed has consisted in establishing a national credit transfer scheme. In Korea, the credit bank system was designed to link the traditional forms of tertiary education with the various alternative education and training programmes, as well as lifelong education programmes. It is an all-inclusive, open system that even recognises credits earned at previously attended universities (Baek, 2003).

The implementation of National Qualification Frameworks (NQF) – which describe qualifications in tertiary, vocational tertiary and post-secondary non-tertiary education as well as the relationships among them – is another strategy to facilitate and guide

pathways and credit transfer. Australia is well advanced in this respect. So is Norway in Europe, where the implementation of NQFs was initiated by the Bologna Process. Belgium (Fl. community) and the Czech Republic are developing plans to develop NQFs as a way to improve the regularity and predictability of credit transfers between TEIs. Other supportive framework conditions include the development of guidelines or codes of practice for credit transfer, such as the *Credit Recognition and Transfer Policy* principles in New Zealand and the *Good Practice Principles for Credit Transfer and Articulation from VET to Higher Education* in Australia (NZQA, 2002; MCEETYA, 2005).

Some policy initiatives have also put emphasis on information to students. For example, *Universities Australia* operates a credit transfer scheme on its Web site that attempts to provide relatively simple information to prospective students on the credit they will be granted at any one of the participating universities. Other facilitating factors include the organisation of studies in clearly defined course modules which proved effective in supporting the mobility of students in Sweden as well as the broader international environment. For instance, the Croatian experience highlights how the Bologna declaration – which stipulates the need to facilitate student mobility through the *European Credit Transfer System* (ECTS) – has had a profound impact on the way new curricula are designed.

Finally, some countries have thought to enhance student mobility through the establishment of dual sector TEIs which include both vocational and university components. This approach has notably been followed in Australia, where a number of *Technical and Further Education* (TAFE) institutes offer bachelor degrees approved through higher education accreditation processes.

## 3.6 Implications of system steering models for institutional governance

To meet their missions, TEIs need to be able to identify areas of high priority and move resources there. TEIs cannot be strong and successful if it is impossible for them to determine strategy, set priorities, identify teaching and research portfolios, and adapt their organisational structure to adjust to a changing environment. Institutional governance structures are therefore of paramount importance.

Institutional governance can be defined as "the formal and informal arrangements that allow TEIs to make decisions and take action" (World Bank, 2000). It includes both an external dimension – conditioning the relations between individual TEIs and their supervisors – and an internal dimension in reference to the devolution of authority within TEIs. While the discussion so far has focused on the external dimension – in terms of the level of autonomy granted to TEIs as well as the steering and accountability mechanisms set up to manoeuvre their behaviour in desired directions – this section now turns to the internal arrangements administering institutional behaviour.

However, internal institutional governance is viewed from a limited perspective, *i.e.* in relation to the implications of new forms of steering at the system level for the internal governance of TEIs. Indeed, what matters from a national policy perspective is that the governance arrangements within TEIs allow external/national policy impulses – in the form of regulations, incentives or control mechanisms – to trigger adequate responses by TEIs. As a result, the emphasis is placed on the definition and implementation of TEIs' strategy rather than their internal management and organisation.

As discussed earlier, the trend has been for a reduction of direct state control of tertiary education in most OECD countries, less involvement in the running of TEIs on a day-to-day basis, and the introduction of new forms of supervision and influence through accountability mechanisms. These trends have had three main effects on internal institutional governance:

- A strengthening of the power of executive authorities within TEIs, increasingly being appointed for their leadership and managerial qualities in addition to the traditional academic leadership skills;
- A concomitant loss of power and influence by existing collegial bodies; and
- An increase in participation on governing bodies by individuals external to the institution, which has strengthened the leadership of TEIs.

### *3.6.1 Conceptual models of institutional governance*

By way of a background, it is worth noting that although the literature offers a number of conceptual models of institutional governance, it provides little practical guidance on how the governance of TEIs should optimally be organised (Jacobs and van der Ploeg, 2006). Overall, the various traditional conceptual models of institutional governance can be grouped around three main approaches reflecting Clark's triangle of co-ordination at the system level (Clark, 1983):

- ***Academic oligarchy*** (Clark, 1979), conceptually close to the adhocracy43 (Mintzberg, 1979) and collegium (McNay, 1999).

  This corresponds to the traditional academic model of collective collegial decision-making, illustrated by the classic concept of the English university, *i.e.* the college-based frameworks of Oxford and Cambridge. In this approach, emphasis is placed on protecting professional autonomy and control over academic work and standards in the hands of those permanently involved and most intimately acquainted with it. According to Berdahl (1999), a possible drawback of this model is to put too much emphasis on the protection of autonomy to the detriment of responsiveness to the public interest.

- ***Market co-ordination*** (Clark, 1979), conceptually close to the enterprise model (McNay, 1999).

  This corresponds to a model of co-ordination emphasizing freedom of choice for personnel, clientele, and institutions, and thereby indirectly promoting flexibility and adaptability. Management is delegated to executive groups, but within a corporate policy context set by the rectorate or other central bodies. In this approach, emphasis is placed on responsiveness to social demands and accountability. According to Berdahl (1999), a possible drawback of this model is to suppress public control over which TEIs and programmes may survive during periods of increased competition.

- ***Bureaucratic co-ordination*** (Clark, 1979), conceptually close to the bureaucracy (McNay, 1999).

43 The adhocracy model can be illustrated by organisations with a flat structure controlled by professionals and experts, namely professors within TEIs.

This corresponds to a model of co-ordination providing for the administration of fragmented parts, with a hierarchy of decision-making bodies but common regulations and procedures. In this approach, emphasis is placed on accountability. According to Berdahl (1999), a possible drawback of this model is to be insufficiently receptive to the needs of academics for creativity and flexibility.

In recent years, the ever more targeted nature of public funding as well as increased institutional autonomy and accountability have required TEIs to publicly demonstrate their efficiency and effectiveness. This context has put acute pressure on them to revise their traditional models of institutional governance. There has been abundant literature since the mid-1990s on the new competitive environment faced by TEIs throughout the world, and its implications for their internal governance structure. A number of authors argue that the traditional collegial authority structures and decision-making are too slow to respond to new challenges, and not flexible enough to face the changing environment of tertiary education. As put by Askling *et al.* (1999), "universities can no longer afford amateurish leadership in accordance with the traditional collegial model".

– ***Entrepreneurial university*** (Clark, 1998), conceptually close to the adaptive university (Sporn, 1999), the service university (Cummings, 1998; Tjeldvoll and Holtet, 1998) and the enterprise university (Marginson and Considine, 2000).

  This corresponds to an intermediate mode of co-ordination between state and market. In this approach, conceptual models share an emphasis on the need for adjustments to the traditional academic model of collective collegial decision-making in the new environment of TEIs, and for stronger institutional leadership. But although these models involve strong leadership, "it does not mean that the collegial spirit is suppressed" (Clark, 2001).

Overall, Sporn (2001) argues that shared governance between the students, faculty and administration is necessary to make strategies more successful. At the same time, Jacobs and van der Ploeg (2006) stress the need to adapt institutional governance to the system-level governance structures: "democratisation of universities appears less useful in competitive higher education sectors. Students vote with their feet and thereby discipline boards of governors. In monopolistic markets, students cannot vote with their feet, so it makes more sense to let them exert influence through university democracy."

The next two sections explore how countries taking part in the Review have responded to the challenge of adapting their institutional governance structures to system-wide steering mechanisms.

### *3.6.2 Enhanced institutional strategic leadership within TEIs*

*Rise of the managerial approach in contemporary tertiary education*

The context in which TEIs operate has changed dramatically over the past decades. Many countries have embraced New Public Management (NPM) approaches to public services provision (see Chapter 5; Parker and Gould, 1999; Trowler, 2002). In tertiary education, this translates in increased institutional autonomy – with a transfer of the state's decision-making power to the leadership of TEIs – in exchange for greater

accountability and steering at a distance – *i.e.* enforcement through funding and quality assurance mechanisms.

As TEIs increasingly need to demonstrate their effectiveness at meeting societal expectations, the need for strong institutional leadership emerges (Lapworth, 2004; Stamoulas, 2006). Indeed, responding to the multiple and intricate demands of tertiary education – teaching and research quality, flexibility, responsiveness to economic needs, as well as regional and international engagement – requires strategic vision, mainstreaming the institutional agenda and scaling up the institutional capacity from individual good practice cases to a well-developed system. This entails having senior management teams able to deliver the response expected by various stakeholders. Likewise, the effectiveness of distant steering mechanisms critically depends on the ability of TEIs' rectors and central administrators to exercise strategic direction over the allocation of funds among various faculties.

Several authors have thus advocated strengthening institutional management so that it can better act on behalf of a public interest (Johnstone *et al.*, 1998; Sporn, 2003). According to Kezar and Eckel (2004), many governments have begun to establish coordinating and governing boards as both buffers and bridges to coordinate governance and institutional management, while McMaster (2007) supports strong institutional management due to the "huge amount of additional administrative work at all levels within the university, and the requirement for a wide range of specialist skills in areas such as marketing, human resource management, management accounting, Web development and instructional design".

*Roles of governing boards*

The rise of the managerial approach in contemporary education has implications for the way TEIs are operated. In this respect, Kezar and Eckel (2004) underline the multi-level nature of internal institutional governance, which usually involves several different bodies and processes with different decision-making functions. Typically, internal governance structures include a governing board (board of regents, board of directors), the TEI president (executive head, CEO) with a team of administrative chancellors, faculty senates, academic deans, department chairs, and usually some form of student representative organisation.

Within this complex structure, the governing board plays a crucial role. Typically, it has responsibility for setting the mission and goals of the institution, the approval of its policies and procedures, the appointment, review and support of its president, the oversight of its resources, as well as an informed understanding of its programmes and activities. In setting the strategy and direction of the institution, it is a key actor in translating public policies and orientations in actual institutional practice and policy implementation. It is thus important, in fulfilling its mission, that the governing board be in a position to have regard to the public interest. The effectiveness of TEIs is indeed based on an understanding whereby society provides support and allows substantial levels of autonomy to TEIs in exchange for governing boards exercising a trustee and oversight role on behalf of the public (Rhodes, 2001).

Yet, the governing board's ability to achieve this complex mandate critically depends on its composition, its role, and the level of independence it has relative to the institution's constituencies, in particular staff and students. Illustrating potential tensions, Jacobs and van der Ploeg (2006) warn against the risk that students and incumbent

professors form a grand coalition to derail decisions in democratic TEIs. Conversely, internal criticisms and critiques may be more difficult to express in externally-led TEIs due to managers' discretion in appointing academics. It is however usually accepted that the complex mandate of governing boards requires effective bodies with an experienced and broadly based membership, and because of their external trusteeship role, a small majority of external members. It is also important that the number of members be sufficiently large to reflect a sufficiently broad number of perspectives, skills and interests but small enough to carry out its business effectively. The optimal size the governing boards is usually believed to range between 12 and 25 members (Hoare, 1995; Dearing Committee, 1997.

Another issue relates to the distinction between governance on the one hand, and leadership and management on the other. Effective management includes providing leadership, including the articulation of vision and goals. It is also concerned with implementation, within the framework of policies and strategies which have been approved at the governance level. Where these functions become confused the consequences include reduced effectiveness, diminished capacity to deal successfully with changing circumstances and increased tension and conflict. The most common and damaging, manifestations of confusion arise where the governance function becomes involved in the micro-management of implementation issues. Not only does this work against effective leadership and management. It is also generally at the cost of neglecting the policy formulation and approval, monitoring, review and appraisal functions which are vital characteristics of effective governance. The principle of subsidiarity is useful for considering the appropriate distribution of functions between governing boards and executive bodies within TEIs. Subsidiarity means that matters ought to be handled by the lowest level of competent authority. In line with this principle, it is usually accepted that the separation of the strategic leadership and management functions at institutional level is to be encouraged.

The new governance structures of TEIs in Australia illustrate how governing boards have embraced this more strategic leadership role, leaving daily management to executive teams. Each governing body meets approximately six times a year to consider matters of strategic importance and to monitor the university's management and performance. The governing body is usually supported by a number of committees with defined roles, for example, a nominations committee which considers future membership, and an audit committee, which oversees the university's finances. Responsibility for operational matters and the day-to-day running of the university is vested in the Vice-Chancellor.

*Strengthening of institutional leadership*

Within the tertiary education community there remain traces of an attachment to traditional models of governance – TEIs seen as self-governing communities of scholars with a governing body where representatives of these scholars together with external members preside over the more formal responsibilities of the institution (Theisens, 2004). The collegial model however leaves a weak role for institutional leadership as illustrated by instances in which the ability of rectors and deans to lead effectively is constrained by democratic academic self-governance and by their being elected by internal bodies.[44] High levels of faculty autonomy result in a structural tendency to adopt a path of least

[44] In a number of countries, rectors and deans are elected by Academic Senates – made up of representatives from staff and students.

resistance rather than to take strategic decisions that involve making choices between faculties or giving different priorities to their plans. It also limits central university resources in favour of maximising faculty allocations.

In practice, the collegial model of institutional governance is found in a number of systems. The process for selecting the head or chair person of TEIs' governing board provides indications on the internal or external locus of control of institutional governance. The head of the governing board is selected by bodies internal to the institutions – thereby reflecting a collegial model – in the Flemish Community of Belgium (for universities), China, Finland (for universities), Greece, Mexico, Poland, Spain and Scotland for pre-1992 universities. In Mexico for instance, the governance of federal and some state universities is collegiate and internal bodies appoint the rector as well as other leadership positions responsible for policy execution and institutional administration. In Chile, Iceland and Norway, internal bodies also elect the head of the governing board although this nomination needs to undergo a formal ratification by government authorities in Chile and Iceland, or institutions may opt for a chairperson nominated by government authorities in Norway (Table 3.1).

But whilst the collegial model is still prevalent in many countries, it is in decreasing numbers as many governments have sought to empower institutional leadership by moving from elections to nominations of TEI leaders by their governing boards (Sporn, 2003). Indeed, a number of countries have adopted internal institutional governance structures in which the head of the governing board is selected by external parties. In Japan and Sweden, government authorities nominate the head of public TEIs' governing boards albeit on the basis of selection made by internal bodies. In other countries, the head of the governing board is selected by its members – thereby entailing a stronger role for external stakeholders provided they are a majority. This approach is found in Australia, Belgium (Fl. community, for polytechnics), Croatia, the Czech Republic (for the board of trustees), Finland (for polytechnics), Mexico (for technological, polytechnic and intercultural TEIs), New Zealand, Portugal, the Russian Federation and Switzerland. This is also the case in the United Kingdom (for post-1992 institutions) where governing boards normally comprise a majority of external members from whom the chairman is elected (Table 3.1).

The Netherlands provides the example of an innovative approach. The *Supervisory Board* consists of a range of personnel with professional, industry, governmental and academic expertise, in order to mobilise a range of constituencies as constructive contributors to institutional governance, while anchoring the institution more firmly to industry and community. In addition, the *Executive Board* is based on three key executive personnel and constitutes a structure of distributed leadership with less dependence on and pressure on a single pivotal authority. It allows part of the institutional executive to be appointed from outside the TEI while balancing this with leaders drawn from faculty ranks, and is capable of a broad range of variations in the internal/external balance of responsibilities and the division of portfolios around the particular strengths of the individuals concerned or the strategic needs of the institution at a particular time.

Table 3.1 **Governing board in public tertiary education institutions, 2007**

| | Legal provisions regarding the presence of external stakeholders in public TEIs' governing boards | Mode of selection for the chairperson/president/head/leader of public TEIs' governing boards | Actors typically members of public TEIs' governing boards |
|---|---|---|---|
| Australia[1] | At the discretion of TEIs (most have external stakeholders[2]) | Universities: Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders[3] |
| Belgium (Flemish Community) | Stipulated by law (must not be a majority) | Universities: Elected by internal bodies<br>Polytechnics: Appointed by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| Chile | Stipulated by law (no provisions that they must be a majority) | Elected by internal bodies and appointed by government authorities[4] | In most cases: academic staff, external stakeholders<br>In some cases: non-acad. staff, students |
| China | At the discretion of TEIs (*m*) | Elected by internal bodies | Academic staff, non-acad. staff, external stakeholders |
| Croatia | Stipulated by law (must be 50%) | Elected by governing board | Academic staff, non-acad. staff, students |
| Czech Republic[5] | Academic senate: Not allowed by law | Elected by governing board | Academic staff, students |
| | Scientific board: Stipulated by law (must be at least one third) | Chairperson is the rector of TEI | Academic staff, external scientists |
| | Board of trustees: Stipulated by law (must be 100%) | Elected by governing board | External stakeholders |
| Estonia | At the discretion of TEIs (few have external stakeholders)[6] | Professional TEIs: Appointed by an election body[7]<br>Other TEIs: Elected by a special election body (approved by governing board) | Rector, vice-rectors, academic staff, students |
| Finland | Universities: Stipulated by law (must be one person min. up to one third) | Elected by internal bodies | Academic staff, non-acad. staff, students, external stakeholders |
| | Polytechnics: Stipulated by law (must be one third max.) | Appointed by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| Greece | Not allowed by law | Elected by internal bodies | Academic staff, non-acad. staff, students |
| Iceland | Stipulated by law (no provisions that they must be a majority) | Elected by internal bodies and appointed by government authorities[8] | Academic staff, non-acad. staff, external stakeholders |
| Japan | National universities: Stipulated by law (number not stipulated) | Appointed by government authorities<br>(selection is made within the president selection committee with the participation of external people) | Academic staff, non-acad. Staff, external stakeholders (membership varies between TEIs) |
| | Public university corporations: At the discretion of TEIs (most have external stakeholders) | Appointed by local government authorities<br>(based on the selection made by the public university corporations; first selection is made by an internal body) | Academic staff, non-acad. Staff, external stakeholders (membership varies between TEIs) |
| | Public universities: At the discretion of local governments (few have external stakeholders) | Appointed by local government authorities<br>(selection is made through election by governing board) | Academic staff, non-acad. Staff, external stakeholders (membership varies between TEIs) |
| Korea | Not allowed by law | *a*[9] | *a*[9] |
| Mexico | At the discretion of TEIs (*m*) | Elected by internal bodies | Academic staff, non-acad. staff, students |
| | Technological, polytechnic and intercultural TEIs: Stipulated by law (must be a majority) | Appointed by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| Netherlands[10] | At the discretion of TEIs (*m*) | At the discretion of TEIs | Research-intensive Universities: academic staff, external stakeholders<br>Universities of applied science: external stakeholders |
| New Zealand | Stipulated by law (in practice they are a majority, but the number is not stipulated by law) | Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders, chief executive |
| Norway | Stipulated by law (4 out of 11 members) | Elected by internal bodies or appointed by government authorities[11] | Academic staff, non-acad. staff, students, external stakeholders |
| Poland | At the discretion of TEIs (few have external sakeholders) | Elected by internal bodies | Academic staff, non-acad. staff, students, doctoral students |
| Portugal | Stipulated by law | Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| Russian Federation | At the discretion of TEIs (most have external stakeholders[12]) | At the discretion of TEIs (usually elected by governing board) | Academic staff, non-acad. staff, students, doctoral students, external stakeholders |
| Spain[13] | At the discretion of TEIs (max. of 3 out of 50 members) | Elected by internal bodies (senate, direct vote of staff and students or at the discretion of TEIs) | Academic staff, non-acad. staff, students |
| Sweden | Stipulated by law (most have a majority of external stakeholders, but the number is not stipulated by law) | Appointed by government authorities (following proposal from the vice-chancellor) | Academic staff[14], students, external stakeholders |
| Switzerland | At the discretion of TEIs (most have external stakeholders) | Appointed by governing board | Academic staff, students, external stakeholders[15] |
| United Kingdom (Eng./N.Irl./Wal.)[16] | Higher education corporations: Stipulated by law<br>(no provisions that they must be a majority) | Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| | Other institutions: At the discretion of TEIs[17]<br>(most have external stakeholders) | Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| United Kingdom (Scot.)[16] | Most post-1992 higher education institutions: Stipulated by law (must be a majority) | Most-post-1992 TEIs: Appointed by governing board | Academic staff, non-acad. staff, students, external stakeholders |
| | Other institutions: At the discretion of TEIs[17]<br>(most have external stakeholders) | Ancient universities of Scotland: Elected by internal bodies[18]<br>Charter universities: Elected by governing board | Academic staff, non-acad. staff, students, external stakeholders |

***Definition:*** Governing board refers to a group of people who steer the strategic orientation and oversee the affairs of a tertiary education institution. The governing board may have different names depending on the institutional governance structure of each country (*e.g.* board of trustees, board of governors, university council, administrative council, supervisory board *etc.*). The term external stakeholders refers to people external to the tertiary education institution such as representatives of industry, the business community or regional/local authorities.

***Notes:*** *a* : Information not applicable because the category does not apply; *TEI* : Tertiary education institution.
1. Information concerns universities only and does not account for the non-university sector.
2. The national framework requires that there must be a majority of external independent members (not defined as "stakeholders") who are neither enrolled as students nor employed as staff. This is a condition to be eligible to certain funding under the Act.
3. The national framework requires that members cannot be current members of State or Commonwealth parliament or legislative assembly unless specifically selected by the governing body itself.
4. The President of the Republic must ratify the selection although this is merely formal.
5. Public higher education institutions (ISCED level 5A and 6) have three types of governing boards with different competencies. Tertiary professional schools (ISCED level 5B) do not have governing boards.
6. In agreement with university status, external stakeholders can be involved.
7. Election procedures are set by the Ministry.
8. The law stipulates that the rector is automatically the head of the governing board. However, the rector is elected by bodies internal to TEI and appointed by government authorities.
9. There are no governing boards in public TEIs, but the President of a TEI is appointed by government authorities.
10. A supervisory board oversees the affairs of the governing board. Only in the case of publicly-subsidised universities (most of the research-intensive universities) members of the supervisory board are appointed by the government. All universities of applied science have independent legal status and the mode of selection is at the discretion of TEIs.
11. TEIs are free to choose between an elected Rector as chairperson of the board or an appointed Rector and an external member to chair.
12. The creation of Boards of Trustees is allowed by the national framework, but it is not mandatory. The major responsibility of these boards is to provide advice and recommendations on different issues.
13. Information concerns universities only, but does not account for vocationally-oriented institutions. This governing board structure refers to the new Higher Education Act approved in April 2007.
14. Academic staff have the right to be full members of the board. Representatives of TEI employees have the right to be present and to speak at board meetings but may not participate in decisions.
15. Members of public TEIs' governing boards vary by canton and by type of institution.
16. Issues covered in this table refer to publicly-subsidised private TEIs. All higher education institutions in the United Kingdom are legally private independent bodies with a charitable status, most of which are publicly funded.
17. The presence of stakeholders is subject to charters, statutes, instruments and articles at the institution level.
18. Students elect a Rector to chair (except in the University of Edinburgh where he is elected by students and staff).

***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.

*Redefinition of academics' and students' roles in institutional governance*

The corollary of the trend towards strengthened leadership within TEIs has been a relative weakening of the governance role of academic communities within TEIs. Sporn (2003) notes that in Europe, reforms tended to divide strategic and operational issues between different governance bodies, mainly the senate and leadership positions. The resulting trend has been for faculty senates to lose power, the extreme case being the Netherlands where their role has been cut to advisory. Likewise, Coaldrake *et al.* (2003) observe in Anglo-Saxon systems a discernible shift away from the notion of a parliament of representatives towards a governing body whose members possess the expertise to exercise trusteeship of the institution. "Everywhere there is increased emphasis on the importance of external Council members who have specific expertise or competence and the involvement of internal stakeholders, staff and students who act in the institutional interest rather than representing constituencies."

Yet, this is not to say that academics ought to be excluded from institutional governance. There is consensus in the literature on the importance of academic participation in institutional governance, in light of their access to information that is essential for important decisions and as a way to build consensus and facilitate policy implementation. As noted by de Boer and Goedegebuure (2001), insufficient participation of academics "may affect the input of policy-making (lack of information) and the realisation of the policy decisions (resistance during implementation)". Likewise, a recent OECD review of changing patterns of governance in higher education concludes that effective leadership must involve the TEI community: "university leadership will fail if it leaves 'academic' interests behind. The governance of higher education in the 21st century needs to develop a fusion of academic mission and executive capacity, rather than substitute one for the other" (OECD, 2003).

As a result, most authors emphasise the need to redefine academics' participation in institutional governance. According to Dearlove (2002), TEIs need to go beyond the dichotomy between collegiality and managerialism and "academics must be involved and prepared to lead, but they must also work in partnership with administrators, in institutions that will be strong to the extent that there is a shared vision that makes the institution rather more than just the sum of warring departments". Increasingly, this redefinition of roles is believed to be best achieved by adjusting the level of faculty participation to the type of decision being considered (Norbäck, 2000; Brown, 2001). In this perspective – which is in line with the principle of subsidiarity – faculty control over academic affairs is encouraged while general administration and financial decisions appear to be best dealt with by executive teams.

The Netherlands illustrate this approach. Both research-intensive universities and universities of applied science (*hogescholen*) provide staff and students with an advisory voice in governance and management. In addition, the Faculty Deanship – at the discipline level – operates in research universities in a similar way as academic bodies in other countries, through collegial decision-making over academic issues.

Students have also been increasingly involved in institutional governance. The justification for their involvement in institutional decision-making is twofold. Firstly, as direct users of TEIs' services, students and their representatives constitute key stakeholders from an accountability perspective. But in addition to this role, the drive of many tertiary education systems towards market-type mechanisms entails greater input from users as TEIs need to be familiar with their needs and expectations to respond and provide the right type of services. As a matter of fact, the practice of including members

of the student community in governing boards has been particularly common in Anglo-Saxon systems, where the market dimension tends to be more developed (Coaldrake *et al.*, 2003).

Yet, the involvement of students in institutional governance is less consensual among researchers than is the case for academics. A number of arguments have been advanced to support students' participation in TEIs' governing boards: as an expression of the ideal of democracy, on accountability grounds, to contribute to their personal development, as a right since tertiary education will impact on them, due to their privileged position to assess curricula and teaching practices, and as a way to promote a positive organisational climate of openness, communication, solidarity and trust (McGrath, 1970; Lee, 1987; Wood, 1993). At the same time, it has been argued that students are not necessarily in a position to represent the interest of their group, their involvement can lead to conflict of interest as they do not have the responsibility of serving the public (which is the trustees' responsibility) and they have limited knowledge and experience (Wood, 1993). Moreover, Zuo and Ratsoy (1999) detect a lack of interest of students in academic issues and express concerns with the potential adverse impact governance duties could have on their educational progress.

In any case, just like academics, it has been argued that the level of involvement of students in institutional governance ought to vary depending on the issue at stake. Indeed, the decisive role of students in decision-making can be problematic in the election of leadership, and in the determination of priorities and budgets between issues of immediate relevance to them (teaching, social services) and those with less direct impact (research and innovation). It has therefore been argued that students should have a greater role in issues of quality assurance and student services than in other areas such as strategy, priority-setting and the appointment of university leadership.

In practice, the involvement of academic staff in the governing boards of their institution is more or less universal (Table 3.1). Members of non-academic staff are also typically included in the governing board, with the exceptions of Chile (in most cases), the Czech Republic, Estonia, the Netherlands and Sweden. As to students, they are typically represented in their institution's governing board in all countries taking part in the Review but Chile (in most cases), China, Iceland, Japan and Korea[45]. The governing boards of TEIs also include doctoral students in Poland and the Russian Federation. However, a study of actual practices of 15 European universities and 15 American colleges and universities reports that the participation of students in governance is limited or even weak (Council of Europe, 2000).

*Training towards leadership*

At the same time as institutional leadership has been empowered, the need for professional skills in management has been heightened. In Australia, a 1995 national review of university management recommended changes to governing boards' appointment procedures to ensure that members have the necessary skills (Hoare, 1995). This claim was reiterated during the Higher Education at the Crossroads Review in 2002. Similar concerns exist in the United Kingdom, as evidenced by the 2003 White Paper (DfES, 2003):

45 Public TEIs do not have governing boards in Korea but a President appointed by government authorities.

> *"Universities are multi-million pound organisations with a vast array of different functions and components. They must split their resources between providing the capital infrastructure for both teaching and research, compete for the best staff, and often act as both landlord and major social centre for a large body of students. They have a key role within their communities and in their contribution to community leadership. In such a complicated environment, management poses exceptional challenges (…) Universities need the full range of professional skills among their managers and administrators."*

And indeed, several studies discern insufficiently-developed managerial skills among TEIs' leaders. As put by Askling and Stensaker (2002), "when faced with the new public management rhetoric emphasising strong leadership in academe, expectations may exceed the real capacity of many current leaders." Bargh *et al.* (2000) attribute this to the fact that governing bodies largely continue to hold the view that universities have to be run by academics or those with academic backgrounds. As a result, managerial expertise is seen as additional to a strong academic track record rather than the driving consideration in an appointment. The lack of attractiveness of the profession – in terms of salaries – is also highlighted by Askling (2001) and Sporn (2003). Given the difficulties for many TEIs to compete with the private sector in attracting qualified managers, and the preference for having TEIs led by individuals with an academic background, a key challenge is to train a range of individuals to equip them with adequate skills to successfully embrace their new leadership roles (Portfelt, 2002).

Countries taking part in the Review have addressed this challenge in varied ways. In Australia, a set of *National Governance Protocols* were developed to ensure – among others – that there is an appropriate skill mix among members of the governing boards, including strong financial expertise and ensuring adequate and continuing professional development for members. Prior to 2008, as an incentive to comply with the protocols, the Government made incremental funding increases in the *Commonwealth Grant Scheme* conditional on universities providing evidence of such compliance. From 2008, subject to changes to legislation, compliance will no longer be a condition of funding. In the Netherlands, involvement in the *Supervisory Board* is often viewed as a training ground for some outside personnel who are subsequently appointed to *Executive Board* positions while in the United Kingdom, a *Leadership Foundation* was set up in 2004 to develop and improve the management and leadership skills of existing and future leaders of tertiary education. In the Czech Republic, students – through the Academic Centre of Students' Activities – have developed a training programme to prepare their representatives for their important role in university governance.

### *3.6.3 Enhanced accountability to external stakeholders*

*Impetus for involving external stakeholders*

At the same time as institutional strategic leadership has been strengthened within TEIs, another major trend has been a push towards a growing openness of TEIs *vis-à-vis* their environment. The two main rationales underlying the involvement of external members in TEIs' governing boards has been to enhance TEIs' responsiveness to the needs of society, and as a way to reinforce institutional leadership and introduce shared governance which is viewed as necessary to make strategies more successful (Sporn, 2001).

As a matter of facts, the above analysis on system linkages has shown how in many countries, national policies have encouraged the involvement of stakeholders in the governance structure of TEIs. Bringing in more people with industrial or commercial experience has been viewed as a way to enhance linkages with the economy and improve internal efficiency, while the engagement of representatives from local or regional governments was deemed to reflect regional interests in TEIs' missions, strategies and activities, and hence enhance their contribution to regional development.

In all countries taking part in the review, TEIs have been stimulated to open-up more to industry – be it global multinational industries or regional firms – and to their surrounding communities and regional actors (see Sections 3.5.1, 3.5.2 and Chapter 9). Those linkages with the economy and regional stakeholders have been encouraged through a variety of mechanisms, ranging from funding incentives to regulations and quality assurance monitoring criteria. But another policy-lever lies in the direct involvement of external stakeholders in TEIs' governance.

*What is known about external stakeholder participation in institutional governance*

Several studies have noted the growing role of external stakeholders in institutional governance during the past 10 to 15 years, be it in European or in Anglo-Saxon systems (de Wit and Verhoeven, 2000; Maassen, 2000; Coaldrake *et al.*, 2003). From a policy making perspective, two issues are relevant with respect to the capacity for individuals external to the TEI to play a role in the steering of its strategic orientation and the supervision of its management. The first one relates to the extent to which the legislative framework includes provisions concerning the involvement of external stakeholders in TEIs' governing boards. Another issue concerns the extent and conditions for external stakeholders' involvement in the governance of TEIs in practice.

With respect to the legislative framework's provisions regarding the involvement of external stakeholders, several patterns can be identified among countries taking part in the Review (Table 3.1). A number of countries impose the involvement of external stakeholders by way of legislative provisions stipulating that external stakeholders must participate in TEIs' governance. This is the case in Belgium (Fl. community), Chile, Croatia, the Czech Republic (for scientific and trustees' boards), Finland, Iceland, Japan (for national universities), Mexico (for vocational and intercultural TEIs), New Zealand, Norway, Portugal, Sweden and the United Kingdom (for higher education corporations). In other cases, the involvement of stakeholders in institutional governance is left at the discretion of the institutions themselves. TEIs in China, Estonia, Korea, the Netherlands, Poland, the Russian Federation, Spain and Switzerland operate under this model. This is also the case in Japan for public university corporations, in Mexico for federal and state universities and in the United Kingdom for pre-1992 TEIs. Greece is the only country taking part in the Review where the involvement of external stakeholders in the governance of TEIs is forbidden by law.

Australia adopted an interesting approach whereby the involvement of external stakeholders was left at the discretion of TEIs, supported by a set of *National Governance Protocols* which recommended that the majority of governing boards' members be external and independent. A recent study of the background of *University Council* members across all Australian universities shows that external stakeholders made up 60% of the councils, with on average 32% of members drawn from business and the professions, 10% from local communities, 7% each of *alumni* and public servants, and 4% of politicians (AVCC, 2003). Internal members include academic staff (17%),

students (10%), executive and support staff (6% each). Another noteworthy practice is the involvement of foreign stakeholders in quite a few Norwegian TEIs' governing boards as a way to exchange experiences on general aspects of governance, management and organisation as well as more specific aspects such as quality assurance or internationalisation.

As to the extent of external stakeholders' participation in institutional governance, they are in practice typically represented in TEIs' governing boards, with the exceptions of Croatia, Estonia, Greece, Korea, Mexico (for federal and state universities), Poland and Spain (Table 3.1).

Countries also differ in terms of the power granted to external stakeholders in TEIs' governing boards. Among countries where legislative provisions impose the involvement of stakeholders, Belgium (Fl. community) and Finland limit their power by indicating that they must represent a minority of the governing board members. This is also the case in Spain where TEIs, whilst free to involve external stakeholders in their in governing board, must limit their number to 3 seats out of 50 members. By contrast legislative provisions stipulate that external stakeholders must make up a majority of TEIs' governing boards in the Czech Republic (where they make up 100% of the membership of boards of trustees), and most post-1992 TEIs in Scotland. In countries without specific legislative provisions, external stakeholders usually constitute a majority in Australia and New Zealand (Table 3.1).

Yet, the involvement of external stakeholders in institutional governance raises a number of challenges. There is evidence that external stakeholders have often entered the tertiary education environment in a superficial way, and proved less effective than expected (Maassen, 2000; Bennett, 2002). De Wit and Verhoeven (2000) note wide fluctuations in the degree of involvement of external stakeholders in Flemish tertiary education.

A common problem derives from the difficulty in finding motivated individuals as external representatives in governing boards. In Portugal for instance, Amaral and Magalhães (2002) found evidence that some new external stakeholders were unwilling to devote the time and energy necessary to play a relevant role in the management of TEIs. According to Perotti (2007), the extent of linkages with the labour market depends on the structure of the economy. She argues, in the Spanish context, that the scant propensity of the industry to innovate (with the exception of certain multinationals) and the weight of traditional sectors such as construction and tourism provide low incentives for economic actors to get involved in tertiary education and to develop synergies with universities.

Another challenge relates to the range of powers assigned to governing boards with external representation. Indeed, some authors have warned against the risk that external membership raises detrimental conflicts of interest. Illustrating such conflicts, granting a strong external decision-making power to external stakeholders over scientific and academic issues may create adverse results such as the academic quality of research being only partially objective, or teaching evaluations being manipulated by teaching to the test of giving students an easy pass, thereby undermining the long-run goals of educational quality (Jacobs and van der Ploeg, 2006). As a result, Jacobs and van der Ploeg advocate granting separate responsibilities to stakeholders, and holding them accountable of their actions as much as possible. In general, there is agreement in the literature that decisions where external stakeholders ought to have a say relate to the overall mission and strategy of TEIs as well as financial oversight. A number of authors suggest however to leave

academic and scientific matters in the hands of collegial bodies (Norbäck, 2000; Brown, 2001; Dearlove, 2002).

## 3.7 Development of tertiary education policy

Finally this last section explores the process of shaping tertiary education policy. The above discussion has shown that a key priority for governments is to provide a clear articulation of the nation's expectations of TEIs (see Section 3.2.3). The focus here is on how this is achieved, *i.e.* the processes by which the goals and strategic aims of tertiary education are established. The process of policy design involves a number of challenges to yield sound policies. Ideally, policy would need to be based upon informed policy diagnosis, drawn on best practice, backed up by adequate research evidence, and consistent – both intrinsically and with policies in other areas of public action. Of equal importance is consensus-building among the various stakeholders involved – or with an interest – in tertiary education.

This section therefore reviews how tertiary education policy is formed in countries involved in the Review. The first part focuses on more technical aspects, with emphasis on research and evidence-based policy making, peer learning, tradeoffs and issues of policy coherence across governmental departments. The analysis then turns to more political issues, looking at country-specific approaches to policy making, consultative processes and consensus building. A number of these aspects are also relevant to the challenge of policy implementation, covered in Chapter 11.

### *3.7.1 Policy design*

*Research and evidence-based policy making*

It is often said that 'an army marches on its stomach' – and it is equally true that a government department moves on the basis of good information. It gains its policy edge from its capacity to imagine the system in complex sociological and economic terms, to predict outcomes, and to fashion well-understood options for government and TEIs to consider.

The past decade has seen the resurgence of interest in evidence-informed policy in education, defined as "the conscientious and explicit use of current best evidence in making decisions and choosing between policy options" (OECD, 2007c). A significant force behind this trend has been the greater interest shown by treasuries and finance ministries in the effectiveness of educational expenditure as a major component of overall public expenditure – 13.4% in the OECD on average (OECD, 2007a). In this context, there is increasing interest by education policy makers in finding evidence to demonstrate what education actually delivers. A further driving force has been the greater diversity of policy makers as TEIs gained autonomy. These factors have made evidence more important than ever before as a basis for policy decisions.

The strategic importance of tertiary education in knowledge economies means that tertiary education policy can have far-reaching impacts on all members of society, and it is thus crucial that policy decisions be made with the best available evidence. In this respect, Salmi (2003) identifies four uses of information for tertiary education policy development. First, evidence can assist the diagnosis of what is right and what is wrong. It can also provide some accountability to the public and funders of tertiary education.

Benchmarking activities are also gaining ground in an increasingly competitive environment – both nationally and internationally. Finally, indicators and research can be used to take stock of policy implementation and make informed choices for the future, through monitoring and forecasting activities.

Yet, policy makers often face a dilemma, having to make swift decisions based on the information they have, while this information is far from perfect. This may be either because the rigorous data or research relevant to policy needs have not been collected/conducted; due to insufficient policy/research interaction translating in insufficient dissemination of research results or their overlooking by policy makers; or simply because the research that is available is contradictory and so does not suggest a single course of action that could be reflected in policy (OECD, 2007c).

In this respect, a number of gaps in the evidence and research basis supporting policy development have been identified during the Review through country background reports and the detailed analyses of external review teams (see Appendix 3). In several countries, these gaps constrain policy diagnosis and analysis, and the ability of policy makers to convincingly support proposed changes and reforms. At the same time, the Review has also identified a number of situations in which rich datasets provide national policy makers with formidable instruments for self-scrutiny and sound policy diagnosis, for gauging and contrasting the impact of alternative policy scenarios, and for assessing the success or otherwise of their policies. A few of them are worth mentioning as an illustration.

In the United Kingdom, the *National Students Survey (NSS)* provides useful information for prospective students on institutional quality as well as for TEIs on ways to enhance the quality of their services (Box 3.2). Likewise, Australia and Mexico are amongst the few countries in the world where standardised tests exist to assess the skills of graduating students, through the *Graduate Skills Assessment (GSA)* and the *General Degree Graduation Exam (EGEL and EGETSU)* respectively (see Box 5.2). With respect to the labour market relevance of tertiary education, the *Higher Education Graduate Employment Observatory* in Chile as well as the *Labour Market Observatory* in Mexico constitute good models for the development of information systems on the labour market outcomes of tertiary graduates (see Box 9.1). The United States has also a long tradition in developing comprehensive surveys in the area of tertiary education including information about providers (*e.g.* "Integrated Postsecondary Education Data System (IPEDS)"), academics (*e.g.* "National Study of Postsecondary Faculty (NSOPF)"), and students (for example, longitudinal surveys such as the "Beginning Postsecondary Students Longitudinal Study (BPS)").[46]

Research evidence is another tool which is useful to assess the success of policies implemented, in a monitoring perspective, and from a prospective angle, predict the likely outcomes of proposed reforms on the basis of their impact in different regional/national contexts. The Netherlands provides a good illustration of how governments' willingness to make use of disinterested research expertise can constitute strength for policy making. The *Advisory Council for Science and Technology Policy* – which is independent of both the government and the TEIs – has a mandate to provide government and Parliament with long-term strategic advice. At times, the government also draws on foreign expertise, *e.g.* through the evaluation of policy tools and programmes by OECD external teams.

46 See Institute of Education Sciences, National Center for Education Statistics, www.nces.ed.gov.

Australia and New Zealand provide other good illustrations of extensive use of research evidence as a basis for policy design. In Australia, the Department of Education, Employment and Workplace Relations commissions a broad range of policy-oriented research on virtually all areas of tertiary education policy and publishes those reports on its Web site.[47] Not only is research used in policy design but its easy access for all stakeholders through a unique entry gate can contribute to the dissemination of research findings and consensus-building. Likewise, in New Zealand, information dissemination is a priority. This is illustrated by the creation of a collaborative Web site for the Tertiary Education Sector which was designed not only to disseminate relevant documents but also to collect views of the different actors in the system.[48] In addition, a special unit - *Tertiary Sector Performance Analysis and Reporting* - for monitoring performance in the tertiary education sector is established within the Ministry of Education which, for example, produces a yearly publication on the profile and trends in the tertiary education sector.

*Peer-learning: importance of international perspectives*

In an increasingly global and competitive environment, peer-learning and international perspectives gain strategic value in the policy making process. Indeed, it is important not to be too inward-looking when considering alternative policy options. It is all too easy, in reviewing a single system, to be over-impressed by its internal logic and to see too many characteristics as over-determined by national history and tradition and by apparently irreversible current trends. Contrasting national practices with those of other countries facing similar situations and constraints can enlighten the national debate by showcasing interesting initiatives in different countries.

A strand of literature discusses cross-border policy diffusion and influences from peers in the policy making process. Policy adoption has been explained using the diffusion of policy innovation framework and its international forms: policy-borrowing, emulation and transfer (Bennett, 1997; Smith *et al.*, 2002). As put by Cohen-Vogel and Ingle (2007), successful policy makers look elsewhere for good ideas. According to these models, conditions are transformed into problems through comparisons with other relevant benchmarking units (*e.g.* cities, states, nations) and new ideas diffuse to neighbouring constituencies through emulation and imitation. Competition is often at the core of cross-border policy diffusion. McLendon *et al.* (2005), for instance, find ample evidence that policies diffuse and spread across US states, a pattern which they largely attribute to interstate competition as well as formal and informal networks that develop between regional policy makers and their agents.

Cohen-Vogel and Ingle (2007) shed light – albeit from an interstate rather than international case study – on the process by which external influences on the policy making process take place. Their findings indicate that peer-learning is most pronounced during the agenda-setting and policy proposal formulation, and least during adoption. In the United States, regional diffusion influences were central to the specification of policy alternatives, both in terms of proposal for new policies as well as in their specifications, which often sought to address problems encountered by early adopters of policy reforms. Peer-learning is therefore important from two perspectives, as a way to bring attention to policies implemented elsewhere, but also from a policy design angle as a way to discuss

47 See www.dest.gov.au/sectors/higher_education/publications_resources/profiles.

48 It is called *TiWiki* and can be accessed through http://wiki.tertiary.govt.nz.

alternative specifications and their effectiveness. In countries participating in the Review, international influences and peer-learning on policy design occur in different ways.

A first diffusion channel derives from the influence of supranational inter- and non-governmental organisations. Huisman and van der Wende (2004) note indeed that "the invisible hands of supranational organisations have an impact on the change from greater introspection of governments (focusing on solving domestic problems) towards a more inter- and cross-national perspective on domestic problem solving. It has certainly increased the awareness of 'foreign' or even European solutions to certain policy problems, and in a number of instances has led to policy borrowing and imitation." This influence of supranational organisations takes place through the development of comparative indicators and analyses – like OECD's – as well the dissemination of best-practice and the development of international guidelines as has been the case in quality assurance (see Chapters 5 and 10). Moreover, these supranational organisations provide a platform for policy makers to discuss policy alternatives in tertiary education and to showcase best-practice and innovative initiatives. As such, they help benchmark national systems against international standards.

The convergence of tertiary education policies has been especially marked in the European area, where many authors observed increased convergence of national policies through, in particular, the Bologna Process. As put by Perotti (2007), "supranational conventions have exerted isomorphic pressure which legislators find difficult to ignore (…) The need for the comparability and mutual recognition of university qualifications among member-countries has fostered, if not entailed, a restructuring of academic programmes which national actors (often hostile to innovations which they themselves have not promoted) would not otherwise have undertaken".

But peer-learning in policy design distils through other channels. Some countries include a small number of non-national members in high level bodies in charge of developing the overall strategy for tertiary education. This ensures that policy making benefits from an international outward-looking perspective. Peer-learning also takes place in less formal ways. In Australia for instance, the framework for choosing national research priorities reflects an analysis of experiences both within Australia and overseas.

### *Policy coherence*

#### Intrinsic coherence: policy tradeoffs

Policy development inevitably involves tradeoffs. As noted by Cummings and Riddell (1992), there may be conflicts between the interests of political leaders, such as a desire to control patronage, and those of donors and other educational reformers seeking to improve educational outcomes. Even among those seeking to improve education, there may be disagreements about the relative importance of equity, administrative efficiency, and educational effectiveness. The challenge for policy makers is therefore to weight the tradeoffs of different policy initiatives – individually set in a particular context – against each other to develop a coherent package at the system level. In doing so however, there is a degree of subjectivity as to the relative importance to give on different aspects. As put by Cummings and Riddell, "the decision to opt for one path rather than another will be a matter of politics in the end."

The issue of intrinsic policy coherence is all the more relevant in tertiary education given its bearing, not only on individuals' future labour market performance and socio-

economic status, but its simultaneous impact on the nation's human capital, labour market, capacity for innovation, economic performance and the development of regions. These multiple dimensions create tensions between policy initiatives which may end-up being mutually contradictory. The literature describes a legion of such 'policy paradoxes' (Cummings and Riddell, 1992; Newby, 1999; Woodrow, 1999; Trowler, 2002; Jacobs and van der Ploeg, 2006; Fuller, 2007).

In order to shed some light on the difficulties involved in designing sound and coherent tertiary education policies, some of these tradeoffs are illustrated below. This list does not aim at exhaustivity nor does it seek to provide definitive answers on how to resolve these tensions. Ultimately, the balance to be struck between the following dimensions is a matter of national debate and consensus-building among national stakeholders and policy makers.

– Tradeoffs efficiency vs. equity

  In some systems, an emerging trend is to introduce cost-sharing so that a greater proportion of the costs of tertiary education are borne by the students themselves. If meanwhile grants and loan programmes are insufficiently developed a tradeoff arises between improving cost-effectiveness and enhancing equity of access.

  This tradeoff is often observed in lifelong learning policies given the greater use of cost-sharing for adult programmes and the fact that mature students are not always eligible to financial aid.

  In some systems, financial incentives or penalties are introduced to reduce the length of study duration, and hence improve the efficiency of the system. While such mechanisms may indeed address problems of moral hazard, they also penalise students who face genuine difficulties with their studies – who are more likely to come from low SES and educational backgrounds.

– Tradeoff efficiency *vs.* transaction costs

  In some countries, a broad range of instruments are used to steer the system in the desired direction – *e.g.* through transparent funding formulas, targeted funds *etc.* However the multiplication of such schemes may increase transaction costs, make monitoring more complex, and make strategic direction of the system less clear.

– Tradeoffs access *vs.* quality

  In systems which have not yet completed their transition from elite to mass participation in tertiary education, tradeoffs have to be made between the emphasis given to qualitative enhancement and enlargement of access.

  Likewise, policies aiming at attracting international students through subsidised tuition to enhance the intercultural skills of domestic students may impose a heavy burden on systems which are still striving to expand participation.

– Tradeoffs quality *vs.* relevance

  In systems with input funding, TEIs are fully responsible for cost savings that can be made, but they do not have strong incentives to supply quantity and quality of output. Output funding restores incentives to supply the socially desirable level of output but has the unintended disadvantage that it may induce grade inflation. Devising funding allocation mechanisms therefore involves a tradeoff between

providing the socially desirable level of output and keeping incentives to reduce costs and avoid grade inflation.

Likewise, efforts to boost research quality using publication metrics need to be balanced against efforts to increase the involvement of TEI researchers in industrial applications through collaboration with industry.

– Tradeoffs quality *vs.* equity

In some systems, TEIs are allowed to set their own tuition fees so that market forces give them incentives to increase the quality of their services. However, this can have an adverse impact on equity if capital market imperfections exist, as poorer students are not able to pay for high-quality TEIs and stratification along incomes – rather than abilities – develops (See Chapter 4).

Some governments have signalled their intention to rationalise their tertiary education systems through a process of mergers that will lead to a reduction in the number of independent TEIs. These mergers have as their main objective to develop internationally competitive and stronger TEIs, but the scaling down of the sector may work against widening access in regions.

– Tradeoffs quality *vs.* regional engagement

Systems often face a difficult tradeoff in balancing regional strategies with those aiming at enhancing the quality of teaching and research – which imply a strong emphasis on acute international benchmarking and some degree of concentration to attain critical mass and excellence.

Likewise, tensions exist between the need to meet intensified international competition in research of key national importance, while at the same time widening the scope and quality of research relevant to regional development.

– Tradeoff accountability *vs.* flexibility

As governments have become much more performance-focused, the accountability movement has increased formalised planning, reporting and control through quality assurance mechanisms and performance contract negotiations. The implication is increased bureaucracy. Policy makers therefore need to find a balance between the need for public accountability and the scope for flexibility, as insufficient accountability may lead to abuse and mismanagement but too much of it creates risks of an inefficient and unresponsive system.

– Tradeoff competition *vs.* cooperation / quality *vs.* diversification

Finally, efforts towards enhancing market mechanisms to foster competition between TEIs and stimulate quality improvements may hamper simultaneous efforts towards co-operation between TEIs and diversification of tertiary education offerings

These few examples illustrate the challenges ahead for policy makers in designing tertiary education policies that have intrinsic coherence. How these tensions are managed and the manner in which they are resolved constitute key decisions that demand imagination, design capacity and skilled application from those responsible for their formulation and implementation.

Policy co-ordination

Policy coherence is not only necessary intrinsically – in resolving tensions and tradeoffs between different lines of intervention – but there is also a need for policy co-ordination across the different areas of public policy that have a bearing on – or may be affected by – tertiary education policy. Indeed, the central role of tertiary education for science and innovation as well as its strategic contribution to building the human capital needed for the knowledge economy underline the close interactions between tertiary education policies and those dealing with science, technology and industry, employment and labour as well as national and regional economic development.

Indeed Gornitzka (1999) observes that in most tertiary education systems, TEIs face many constituents, including different government actors, whose expectations are usually not unitary and coherent. Instead they may find themselves in a jungle of conflicting requirements from different types of government policies and programmes. Turning policy interactions into synergies rather than conflicting signals therefore, is a matter of policy co-ordination. This requires capacity to work across different portfolio areas so as to integrate tertiary education more effectively into national priorities. In particular, the Review identified a number of areas in which a better integration of related policies has potential for creating virtuous synergies:

– With economics and finance authorities

  Coordination with economics and finance authorities is critical to ensure that tertiary education finds its place and best serves the national economic strategy, while receiving adequate funding to fulfil its mission and with due regard for its non-economic contribution to the broader society (see Chapters 2, 4 and 6).

– With science and technology authorities

  Coordination with science and technology authorities is important to ensure that TEIs' activities fit within the broad national innovation strategy and policy framework, and to warrant that signals sent to TEIs in the form of funding steering incentives are consistent across tertiary education and science policies (see Chapters 4 and 7).

  Coordination with science and technology authorities is also critical to make sure that the introduction of research priorities in tertiary education does not result in shortages of highly-skilled workers in non-priority areas – especially given that it can take many years to educate and train new R&D personnel (see Chapter 7).

  Coordination with science and technology authorities may also be useful to limit the accountability burden on TEIs, *e.g.* through enhanced coordination and integration of teaching and research quality assurance mechanisms (see Chapters 5 and 7).

  Coordination with science and technology authorities may also be necessary so that international research co-operation of TEIs delivers the desired outcomes and effectively contributes to research and innovation at the national level (see Chapters 7 and 10).

– With regional development authorities and regional/local levels of government

  Coordination with regional development authorities as well as regional/local levels of government is critical to develop joined up policy interventions for

regional engagement instead of having different authorities operate in silos, thereby sending contradictory signals to TEIs (see above).

– With labour authorities

  Coordination with labour authorities is critical in systems where responsibility for vocational TEIs rests with labour ministries, so as to ensure the coherence of tertiary education policies across the vocational/academic divide (see above).

  Coordination with labour authorities is also important more generally to ensure that tertiary education offerings are geared towards areas of employment need and future labour market demand (see Chapter 9).

  Coordination with labour authorities may also be necessary in the areas of lifelong learning and the training of workers so as to grasp the full benefits of system diversification. These areas are indeed often under the oversight of labour ministries (see above and Chapter 9).

– With immigration authorities

  Co-ordination with immigration policies is desirable to ensure that immigration provisions create a positive framework for internationalisation and science policies. Indeed, immigration blockages and delays impede the recruitment of international students – with possible implications on TEIs' funding – and put the global competitiveness of the system in jeopardy as a result of difficulties in attracting foreign academics and globally mobile intellectual workers (see Chapters 7, 8 and 10).

– With foreign affairs authorities and international aid agencies

  Co-ordination with foreign affairs authorities may help 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. Engaging international aid agencies may also warrant that the education of nationals from developing countries includes provisions to encourage brain circulation instead of brain drain (see Chapter 10).

Some countries have addressed the challenge of policy co-ordination by institutionalising arrangements for policy consultation within government, developing inter-ministerial bodies or cluster groups that link tertiary education officials to public authorities with responsibility for complementary lines of policy – typically representatives from tertiary education, finance and administration, foreign affairs, foreign aid, immigration, industry, labour, tourism, and trade. Such arrangements warrant a whole-of-government approach.

### *3.7.2 Consultative processes and consensus building over tertiary education policy*

An important aspect of policy development relates to the processes which policy makers put in place to build consensus over policies across a wide range of stakeholders involved – or with an interest – in tertiary education. Indeed, a number of studies stress the critical importance of consensus-building for the success of policy implementation (Fiske, 1996; Johnstone *et al.*, 1998; Finlay *et al.*, 1998; Corrales, 1999; Lindell, 2004). While these aspects are discussed in greater detail in Chapter 11, this section briefly

outlines the processes put in place during the policy development phase to consult with stakeholders and build consensus over tertiary education reforms.

*Development of overarching strategy for tertiary education*

It is important for the purpose of building consensus over tertiary education policies and reforms that all relevant parties see the role that they should play within the broader policy framework. In this respect, awareness of the global challenges and understanding of the medium and long-term priorities of the system are crucial. To this aim, Jacobs and Van der Ploeg (2005) call for 'a clear vision on the goals of higher education, and how these goals can be reached' in order to inform a rationale debate on higher education reform with a stronger emphasis on the general interest. Olsen (1989) echoes this claim, arguing that policies are more likely to succeed if their intentions are focused and well defined rather than ambiguous.

The above discussion on the role of the State in tertiary education has underlined the importance of constructing a common vision for the system, so that policy debates can focus on the system direction rather than concentrating solely on resourcing issues – even though any sensible discussion obviously requires an understanding of resources and constraints. It is therefore important to devise a national strategy that all stakeholders can refer to, but the way by which such a strategy is developed is equally important for stakeholders' endorsement.

Collective ownership – and endorsement – of the overall strategy can be achieved by involving all stakeholders in the definition of priorities and policy planning. One option may be to establish a National Council or Forum of Tertiary Education – in the same fashion as the Netherlands' Innovation Platform in Science and Technology – to assist with the integration of strategic leadership, policy planning and co-ordination among the main actors.

*System steering and approach to policy making*

Such a collective and consensual approach to policy development is already a feature of some countries taking part in the Review, while it is less prevalent in other systems. For instance, Bleiklie (2000) contrasts the tertiary education reform styles of England, Norway and Sweden, arguing that the reform process was comparatively confrontational in England, with reforms fairly centralised, radical and relying more on tougher measures in order to discipline non-compliant institutions. By contrast, reforms in Norway are more incremental, less radical and with a gradual evolution in a value-structure driven process and considerable local variation. The policy making process in Sweden illustrates an adversarial style, with an uneasy tug-of-war between two major political blocs with very different versions of tertiary education.

Gornitzka (1999) sheds light on the underlying explanations for differences in approaches to policy making, arguing that policy development and the interactions between TEIs and the government need to be seen within the overall system of state steering of the tertiary education sector. Building on Olsen's (1988) four state models of national steering and control of tertiary education, she proposes four main models of policy development and implementation. While no country can be said to perfectly reflect any of these theoretical models, differences in modes of steering suggest possible candidates as illustrations:

- Firstly, in the ***sovereign state model*** – or model of state control – tertiary education is seen as an instrument for reaching economic or social goals, through tight control over TEIs and a strong emphasis on accountability to political authorities.

  Under this model, decision-making is centralised and operates 'top down' from one single centre of control to TEIs. The main arena for policy discussions is within elected assemblies while the civil service acts as a neutral but politically loyal chain of command. Policy changes therefore follow changes in the political leadership.

- In Olsen's second model – ***the institutional state*** – TEIs have a special responsibility to protect academic values and traditions against shifting political coalitions and short term interests of stakeholder groups. There are unwritten conventions of state non-interference in tertiary education affairs.

  Under this model, decision-making is specialised and traditionalist and the policy arena is dominated by institutional leaders whose authority is derived from the history and traditions of their institutions. The government uses a hands-off approach and policy changes in tertiary education take place through historical and evolutionary processes rather than as a result of reforms.

- Olsen's third model – the ***corporate-pluralist state*** – challenges the view that the state has a monopoly over power and control, and relies upon several competing centres of authority and control reflecting the constellation of interests voiced by different stakeholder groups.

  Under this model, decision-making is segmented and dominated by clusters of stakeholder groups (the government being one of them) which operate through consultations and negotiations. The arena of policy making consists of a corporate network of public boards, councils and commissions. Government interference depends upon power relationships and policy changes in tertiary education are the result of changes in power, interests and alliances.

- Finally, the fourth model proposed by Olsen – the **supermarket state** – is characterised by a minimal role of the state and a heavy reliance upon market mechanisms to regulate the sector.

  Under this model, there is a strong decentralisation of decision-making in each TEI, and there is no real arena for policy making. The government acts as a night watcher, ensuring that market mechanisms in tertiary education run smoothly. As a result, changes in tertiary education depend on the rate of stability or change in the environment of TEIs.

*Importance of consultation processes to build consensus*

In fact, no country perfectly fits the theoretical models proposed above, and even in more centralised systems, some mechanisms exist to consult stakeholders and involve them in policy development. This is not only because consultative processes facilitate policy implementation. Consultations are also useful, allowing the government to think through its objectives, to discuss crucial issues with stakeholders and to adjust policy strategies accordingly. Yet, consultative processes are carried out in varied ways across countries participating in the Review.

In some countries, consultative processes are established by law. Indeed, distinctive to the Czech Republic is a statutorily-based system of compulsory and exclusive consultation whereby the Ministry is required to consult with two higher education bodies – the *Czech Rectors Conference* and the *Council of Higher Education Institutions* – on proposals and measures that have a significant impact on TEIs. This consultative process establishes a policy making process that is strongly oriented towards developing and adopting proposals that result in a consensus among TEIs. In addition, the *Students' Chamber of the Council* of TEIs enables students to have an influence on strategy issues at the national level, which is quite unusual in Europe. Over time, these consultations have come to be viewed as a useful necessity rather than a legal obligation. Processes of mandatory consultations also exist in Poland, where wide consultation and participation in decision making by all key stakeholders is expected and accepted as part of the public policy process (*e.g.* through the *General Council for Higher Education*).

Yet in other countries, consultative processes are part of deeply-rooted cultural arrangements and traditions. In describing the policy making process in Sweden, Lindell (2004) notes that "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". Over the years, a system of structured consultations has been developed and as a result tertiary education reforms are *de facto* a joint responsibility of the state and the stakeholders since the late 1930s. The consensual nature of policy making is also a feature of Finland, Iceland and Estonia where there is a well established culture of dialogue with the full range of stakeholders in the development of tertiary education policies. The conclusions of working groups involving stakeholders are taken as recommendations to the Minister, and these recommendations are taken as a basis for conclusive decisions in the majority of cases.

Some countries also engage in *ad-hoc* national consultations when preparing tertiary education reforms. This is for instance the case of Spain for the regionalisation reform in the 1980s. The Ministry organised a national debate that included well publicised open meetings where parents, teachers, students, and interested citizens could make their views known. According to Fiske (1996), "these efforts toward negotiated national consensus have proven considerably more acceptable to the regions that jealously guard their quasi-autonomy than techniques involving more direct intervention". More recently, the Higher Education at the Crossroads review in Australia provides another example of extensive consultative processes impacting on the reform design and adjustments through iterative processes. In March 2002, the Australian government initiated a major review of higher education, following the reforms of the late 1980s that created the unified national system of higher education and introduced a new system of tuition fees and loans. A series of discussion papers were prepared, on which submissions were invited. Subsequently, 49 consultation *fora* were held, involving a total of around 800 participants. Moreover, a reference group comprising a number of eminent Australians, representatives of business, industry, students, the indigenous community and the higher education and vocational education and training sectors provided advice to the Review.

The experience of countries participating in the Review suggests that such mechanisms of regular and institutionalised consultation processes contribute to the development of trust among parties, and help them reach consensus. They establish a policy making process that is strongly oriented towards developing and adopting proposals that result in a consensus among parties involved. However, an important priority for many countries is now to widen the radius of statutory consultation to include

other external stakeholders in addition to TEIs and students, such as employers, regional and local governments and community groups and associations. These groups may indeed offer important perspectives which will help shape tertiary education for the better.

## 3.8 Pointers for Future Policy Development

The challenges of tertiary education governance described in this chapter point to several areas where the processes for structuring, steering and reforming the tertiary education system could be enhanced in order to help countries meet national goals. The priorities today are to ensure that national tertiary education systems are able to function effectively in an increasingly competitive international higher education area, and that they contribute to national development in the context of the knowledge economy.

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 reviewed countries. In a number of cases many or most of the policy suggestions are already in place, while for other countries they may have less relevance because of different social, economic and educational structures and traditions. The implications also need to be treated cautiously because in some instances there is not a strong enough research base across a sufficient number of countries to be confident about successful implementation. Rather, the discussion attempts to distil potentially useful ideas and lessons from the experiences of countries that have been searching for better ways to govern 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 development of a coherent strategic vision, the establishment of sound instruments for steering tertiary education, the imperative need to build consensus over tertiary education policy, to ensure the coherence of the tertiary education system within extensive levels of diversification, to build system linkages, and to strengthen the ability of institutions to align with the established tertiary education strategy.

It should be stressed that there is no single model of effective tertiary education governance, or a global best practice that can be proposed to national systems of tertiary education. Rather, governance practices need to be developed drawing on national traditions and models. Nonetheless, successful planning appears to require three major elements: the capacity to articulate a vision for the system, appropriate policy instruments to implement this vision, and a way of monitoring performance.

### *Develop a coherent strategic vision for tertiary education*

#### Devise a statement of strategic aims for tertiary education

A first priority for countries should be to develop a comprehensive and coherent vision for the future of tertiary education, to guide future policy development over the medium and long term in harmony with national social and economic objectives. Ideally, it should result from a systematic national strategic review of tertiary education and entail a clear statement of the strategic aims. A complementary task is communicating this vision clearly and effectively so that all relevant parties see the role that they should play within the broader policy framework. If this vision is not developed, the risk is that, in its absence, the strategic direction of medium and long term policies will become the

accumulation of short term decisions of different system actors based on little more than the daily demands of their environment and the interests of institutions, public administration and other groups.

Draw on a comprehensive advisory body to establish strategic aims for tertiary education

Establishing a vision and objectives for the tertiary education system requires the need for internal reflection, debate and consensus. This suggests that it could prove useful to create a comprehensive body, such as a National Council or Forum of Tertiary Education, to assist with the integration of strategic leadership, policy planning and co-ordination among the main actors. It should be a wide-ranging body with the participation of the main stakeholders in the system, including: government, institutions, students, teaching staff and scientific community, private sector and civil society.

Indeed, different stakeholder groups with an interest in tertiary education often have diverging interests when it comes to tertiary education policy and reforms. Such a body could thus reconcile these diverging interests and lead various stakeholder groups to work together towards the development of an agreed upon medium and long term strategy for tertiary education, leaving the policy formulation and implementation to educational authorities. Such a body would be complementary to tertiary education authorities – as it would make recommendations, not develop policy.

This body could 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 on how these problems have been addressed in different national settings for discussion and consideration in the national context.

*Establish sound instruments for steering tertiary education*

Ensure that the capabilities of tertiary education authorities keep pace with changing responsibilities

As tertiary education authorities divest some responsibilities such as the direct administration of academic institutions and take on others in terms of policy steering and performance evaluation, they need to change their competencies and organisation. For example, they no longer need staff expert in managing government procurement systems, but they need instead to strengthen their capacities with respect to data collection and analysis, policy experimentation, and policy analysis. This requires the ability to judge whether tertiary education is meeting expectations and the improvement of the formal processes of informing, reporting and follow-up. The objective is to reinforce the steering capacity of tertiary education authorities. An evaluation of their staff expertise and current skill needs may be useful to identify potential mismatches and to develop professional development and training programmes to keep pace with changing demands.

The steering functions relevant for tertiary education authorities include the development and administration of financing instruments and the review and monitoring of outcomes for the system as a whole. This need not (and should not) result in more bureaucracy. Tertiary education authorities might explore, for example, a more systematic association with research centres and evaluation experts; create networks of international and national consultants; use a limited number of performance indicators and draw on

information technologies more intensively – all as ways of developing capacity to steer tertiary education without overburdening institutions with reporting requirements.

Develop steering instruments to establish a balance between institutional autonomy and public accountability

Developing instruments for steering has potential to achieve accountability and link institutional performance to national purposes while also permitting a wide scope for institutional autonomy. Possible ways of meeting these two goals may include, for example, instruments such as performance contracts, performance-related funding or targeted funding. Especially important is the way money streams – in particular those dealing with research funding, funding of a strategic nature and the funding of programmes – may be coordinated to give optimal outcomes in the area of quality, efficiency and system responsiveness.

An objective is to steer the system in such a way that the differential contribution of institutions in the system is realised. A possible approach is multi-year performance contracts negotiated between the tertiary education authorities and individual institutions linked to agreed performance targets (*e.g.* for enrolments and graduates in different subject areas and at different qualification levels) that recognise the distinct contribution of each institution to the goals of the system. However, constructing such performance agreements is a complex task and proper expertise has to be developed within tertiary education authorities. A principle is not to make the contracts, negotiations and assessment too detailed – covering numerous aspects of the institution's core business. The idea is to avoid detailed annual reporting requirements towards tailor-made, more strategic forms of accountability.

Use student choice as a means by which to improve quality and efficiency

Government oversight is not the only means to steer the behaviour of educational institutions – and in some instances may not be the best. Depending upon national circumstances, governments may wish to evaluate how they may strategically use institutional competition and student choice as a means to achieve stronger performance from their tertiary system. This may be achieved by recognising new types of institutions, allowing the portability of institutional subsidies and/or student support, strengthening credit transfer and articulation arrangements to foster mobility between institutions, and improving the availability of information about quality to prospective students.

*Ensure the coherence of the tertiary education system with extensive diversification*

Grasp the benefits of wider and more flexible diversification among tertiary institutions

Extensive and flexible diversification may provide countries with a wider capacity to address varied national needs – in terms of research and innovation, the development of a skilled workforce, social inclusion and regional development – than a system of limited and fixed diversification. Thus, countries might want to assess how much diversification, of what sort and in which regions is best-suited to meet the strategic goals of the system. The mission and profile of individual institutions would need to be clearly defined in accordance with this diversification strategy. There is no single model or best approach to devising a system of tertiary education with extensive levels of diversification. In

particular, a diverse system of tertiary education can be conceived either with distinct institutional sectors or within a single institutional type.

It is of paramount importance to establish a clear and positive vision of professional/vocational tertiary education either as a distinct sector or as a specialisation of some institutions within a unitary system. Raising the profile of vocational tertiary education is not easy. The aim should be to promote quality professional and vocational education and training within a tertiary sector which is strongly employer-oriented and closely integrated with the specific labour market needs of each locality and region. The objective is for tertiary-level vocational qualifications to generate their own high status so that professional/vocational programmes are not seen as second-best. In a number of countries where expansion of tertiary education continues and where academic qualifications have been dominant, expansion should concentrate on professionally orientated programmes.

Finally, achieving a successfully diversified system requires a set of supporting changes to accreditation, quality assurance, human resource management, and governance structures and policies to reflect the distinct mission of individual institutions. For example, quality assurance arrangements need to be specifically designed to be fit for professional/vocational purposes: while academic quality and rigour are essential, it is not appropriate for vocational courses to be assessed against solely academic standards.

### Avoid the fragmentation of the tertiary education system

Tertiary systems with a highly diverse institutional base require co-ordination mechanisms to avoid their fragmentation. The risk is that each sub-system evolves independently of others, diverts from its alignment with the system's objectives, leading the overall system to lose coherence. This reinforces the need for a comprehensive strategic body to establish consensual strategic aims which account for the different parts of the tertiary system, mechanisms to define the role of individual institutions in the system, and incentives to ensure that individual institutions stick to their agreed mission and profile. Improving the ways in which institutions collaborate can help create a more coherent system.

### In systems with vocationally-oriented sectors, ensure that mechanisms exist to discourage academic drift

In countries with a distinct vocational tertiary sector, institutions in this sector need to develop and take collective ownership of their own distinctive mission, in which they can take pride – and with which they can compete with each other to excel. The rewards for their excellence have to be substantial enough to discourage academic drift. Also, there needs to be a clear understanding by vocational institutions, backed up by appropriate legislation, that they are expected to stick to their vocational mission. Furthermore, in these institutions, the primary criterion for accreditation to award degrees (in new fields, or at master's level) should be a demonstration of adequacy of education provision with labour market demand.

Limit barriers to entry and assess the contribution of individual institutions through quality assurance arrangements

Tertiary education authorities can encourage the expansion of tertiary education as a means to increase the diversity of programme offerings and to broaden participation. In particular, this might include the growth of private provision, possibly as a way to expand educational opportunity at little or no direct public cost. For this to happen, it is important to remove burdensome administrative requirements that might discourage entry by either public or private institutions. A possible approach is to design simple licensing procedures that outline minimum infrastructure and educational requirements and review the authorisation to operate through effective quality assurance mechanisms that focus on the outputs of the new institutions.

*Build system linkages*

Ensure appropriate co-ordination between secondary and tertiary education systems

It is essential to achieve a great degree of co-ordination between the secondary and tertiary education systems. Issues such as whether secondary students receive sufficient guidance to grasp the benefits of tertiary education, whether they have access to adequate information to assess the labour market outcomes of different study options, and the extent to which the secondary curricula provide a sound basis for successful tertiary study are key to make the transition between secondary and tertiary education both efficient and equitable. This provides a strong case for close collaboration between officials and practitioners with responsibilities in both secondary and tertiary education systems.

Linkages also need to be strengthened between vocational secondary education and tertiary education, by developing tracks from vocational pathways to tertiary-level study, and providing those students with adequate support to thrive – in the form of remedial and bridging programmes.

Review whether the tertiary education system is contributing effectively to lifelong learning

Building skilled workforces for the knowledge economy entails taking a growing and increasingly diverse range of individuals to tertiary-level studies. Tertiary institutions are often highly adapted to the needs of traditional students but weakly suited to meet the needs for lifelong learning. Therefore, national policy makers should assess whether the flexibility of the system, the relevance of provision and funding arrangements are suited to lifelong learners.

Of particular importance are issues of entrance criteria (to facilitate access of adults on the basis of experience), the suitability of provision to mature learners (part-time, credit-based, distant and short-cycle offerings) and the relevance of provision to the needs of industry (multidisciplinary offerings and job-specific training). Access of mature students to financial support is also critical in systems where cost-sharing has been introduced.

Build linkages between different types of TEIs

In order to warrant the overall coherence of the tertiary education system, it is necessary to guarantee linkages between its several sub-systems. For instance,

opportunities should exist for students to move across the vocational-academic divide (in both directions) with appropriate support, at the end of the bachelor's and master's cycles. This would be part of a strategy to stimulate more vigorously flexible learning paths and the validation of previous learning experiences for students throughout the system. This concerns both the transfer across sectors and between institutions in a particular sector. A national qualifications framework is likely to be instrumental, especially in terms of the recognition of short-cycle pre-bachelors qualifications. It might also prove to be the means through which the transfer of credits between institutions will not be dependent upon local and voluntary agreements between groups of institutions.

There is also great potential in strengthening co-operation between institutions, as a mean to rationalise the tertiary education system and improve its internal efficiency, but also to enhance the contribution of the system to both the knowledge economy and regional development. Such co-operation can be achieved by encouraging – or supporting – research networks, centres of excellence, collaborative initiatives towards quality-teaching, the sharing of educational facilities and reducing the duplication of programme offerings at national and regional level.

#### Foster the engagement of institutions with surrounding regions and communities

A number of initiatives can foster the engagement of institutions with surrounding regions and communities. A possibility is to encourage institutions to include regional engagement in their mission statements. The expression of institutions' regional engagement in their mission statements sets expectations about such role which is likely to improve the commitment of institutions to it. A number of incentive and reward mechanisms can also be used to steer the behaviour of institutions located in regions and encourage them to engage with local industries and communities. Other options include strengthening institutional leadership while including regional stakeholders in the governance structure of institutions.

### *Strengthen the ability of institutions to align with the national tertiary education strategy*

#### Ensure the outward focus of institutions

An imperative is to ensure the outward focus of institutions. This entails strong educational links to employers, regions and labour markets; effective university-industry links for research and innovation; participation of external stakeholders in system and institutional governance and in quality assurance; a significant share of external funds in institutional budgets; and a broad internationalisation policy portfolio.

#### Require institutions to establish strategic plans

One simple way to encourage institutions to more deliberately contribute to the goals of the tertiary system would be for the tertiary education authorities to require all institutions in receipt of public funding to prepare, and regularly update, meaningful strategic plans aligned with the national tertiary education strategy. These would be submitted both as a basis for general accountability and to bid for targeted funding. These strategic plans could be disseminated internally and to the general public. As well as their intrinsic value in sharpening institutional missions, setting future directions and highlighting choices that need to be made, the process of preparing strategic plans could be a helpful catalyst in increasing staff and student commitment to their institution and its

future – and strengthening their own place in it – and in highlighting issues in governance and management which need to be addressed.

### Examine how best to widen the scope of institutional autonomy

It would also be important to review options to widen the scope of institutional autonomy so as to allow for greater responsiveness (to students, stakeholders, regions) and efficiency in operations. Depending upon national traditions and legal codes, this may take the form of: (a) permitting TEIs to be established as legal persons (foundations, not-for-profit corporations) rather than state administrative bodies; or (b) identifying ways of widening institutional autonomy *within* the framework of state agency, permitting innovations in contracting for services, labour relations, public auditing, and other areas.

The guiding principle should be to grant institutions considerable room for manoeuvre while reserving the steering role for the government. Institutions are to be given wide latitude in managing their own affairs for accomplishing public priorities consistent with their missions. However, the extent of institutional autonomy would need to be differentiated to account for the capacity of individual institutions to exercise such autonomy. It would be desirable to provide institutions with a high degree of autonomy in human resource management and flexible financial regimes to allow them to compete in a range of markets.

Plans for empowering institutions may include legislation permitting institutions to be established as self-governing legal entities, in the form of foundations or not-for-profit corporations. Under this legal status, institutional leadership would have maximum freedom to achieve the institution's mission, finances would be separately accounted for outside of the state system, human resource management would be fully exercised by the institution and, in return, institutional leaders would bear full responsibility for the results achieved. The objective is to enhance institutions' responsiveness to challenges and their ability to diversify, to take initiative and to innovate. Institutions which take this option would need to build capacity to operate under this new arrangement which requires a new set of leadership skills, a given scale of operation and the support of management, staff and students. The transition to the new legal status would also require support structures such as favourable tax treatment, philanthropy laws, advice to assist institutions and credible processes of evaluation.

### Create a national policy framework towards institutional governance that allows institutions to effectively manage their wider responsibilities

National policy towards institutional governance needs to allow institutions to make the most of their autonomy and new responsibilities. It would be important to create a legal framework that provides them with the opportunity to establish a governing body which would operate at a strategic (as opposed to scientific) level, would comprise internal and external stakeholders, and would be supported by a senior management group. The features of the governing body could vary from institution to institution, to reflect differences in missions and profiles, within a common general framework.

An influential external membership in institutional governing bodies is likely to bring a range of benefits. External representatives provide useful perspectives and insights, thereby enhancing the relevance of TEIs to their communities. They are also a valuable means of promoting accountability. Granting some specific powers to this governing

body – *e.g.* financial oversight, setting the broader strategic plans of the institution, oversight of senior post-holders – could encourage the active participation of external stakeholders.

In order for institutional leadership to determine strategy, set priorities, identify teaching and research portfolios, and adapt their organisational structure to a changing environment, it cannot be constrained by excessively dominant governing structures representing faculty/departmental interests. Furthermore, the full value of including external stakeholders in strategic decision making will not be realised unless institutional leadership has the ability to ensure that strategies are implemented. At the same time, some areas of institutions' activities such as academic affairs are best dealt with by governing structures with professional expertise such as academic senates.

It would also be important to give appropriate voice to students. Students should have a prominent role in areas such as quality assurance processes (both internal and external) and student services. They could also contribute to the development of the institutional strategy and the setting of institutional priorities.

*Build consensus over tertiary education policy*

Tertiary education authorities often have a difficult task shaping tertiary education policy. There are a number of challenges involved in policy making, some technical – such as strengthening the evidence and research base of policy decision, making full use of peer-learning and international experience, ensuring policy coherence and resolving tradeoffs – other challenges are of a more political nature – whereby policy making is constrained by cultural arrangements and traditions for consensus buildings and the use made of consultative processes. Consensus-building is indeed critical to overcome obstacles to successful policy implementation.

Develop an evidence basis to inform policy making

Policy development and implementation are likely to be more effective if there is a good basis of information, and should, wherever possible, be evidence-based and associated with an information strategy. It is needed for assessing the performance of the system, costing and planning new developments and monitoring outcomes. Published information is also a necessity in a system that is responsive to stakeholders. A comprehensive information strategy should thus be developed, laying out what is to be collected, how often, the methods for collection, but also what is to be published, to whom, and how information is to be disseminated. It would also be important to monitor and review the success (or otherwise) of national tertiary education policies and their implementation, and to contrast national policy practices with those of other comparator countries in a systematic way to inform policy development.

Widen consultation within government to ensure coherence across policies to support national tertiary goals

The success of tertiary education depends on policies across a range of governmental areas. Inter-ministerial bodies that link education officials to public authorities with responsibility for complementary lines of policy such as immigration, science and technology, and labour market policies can play an important role in widening and regularising policy consultation within government. Such consultation and coordination

has been successfully achieved with respect to science policy in many OECD countries, and could beneficially be extended to other dimensions of public action.

Widen consultation with those outside government to ensure that voices other than those of "producers" are heard

At the same time, ministries with responsibility for tertiary education should take care that discussions with those outside of government are not captured by the providers of tertiary education since the interests of the wider society are also at stake. Ministries should in particular ensure that the stakeholders who develop strategic orientations for tertiary education and debate tradeoffs include graduates, employers, labour organisations, and non-profit organisations engaged in analysis and social advocacy.

Private and public enterprises need the opportunity to reflect on and articulate their needs, not just for newly qualified graduates but also for continuing education and training, lifelong learning in the widest sense and the full range of other services – not just research but development and consultancy – which contemporary tertiary institutions can be expected to provide.

## *References*

Adelman, C. (1999), *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*, Washington, US Department of Education.

Aghion P. and P. Howitt (1998), *Endogenous Growth Theory*, Cambridge, MIT press.

Amaral, A and A. Magalhães (2002), "The Emergent Role of External Stakeholders in European Higher Education Governance", in A Amaral, G A. Jones and B Karseth (eds.), *Governing Higher Education: National Perspectives on Institutional Governance*, Dordrecht: Kluwer.

Amaral, A., V.L. Meek and I. M. Larsen (eds) (2003), *The Higher Education Managerial Revolution?*, Higher Education Dynamics volume 3, Kluwer Academic Publishers, Dordrecht/Boston/London.

Askling, B. (2001), "In Search of New Models of Institutional Governance: Some Swedish Experiences", *Tertiary Education and Management*, Vol. 7, No. 2.

Askling, B., M. Bauer and S. Marton, (1999), "Swedish Universities towards Self-Regulation: A New Look at Institutional Autonomy'', *Tertiary Education and Management*, Vol. 5, No. 2.

Askling, B. and R. Foss-Fridlizius (2000), "Lifelong Learning and Higher Education – the Swedish Case", *European Journal of Education*, Vol. 35, No. 3.

Askling, B. and B. Stensaker (2002), "Academic Leadership: Prescriptions, Practices and Paradoxes", *Tertiary Education and Management*, Vol. 8, No. 2.

Australian Vice-Chancellors' Committee (AVCC) (2003), *Australian University Council Membership 2003*, accessed 20 January 2008 from www.universitiesaustralia.edu.au/documents/universities/key_survey_summaries/aus_uni_council_update.pdf

Baek, E. (2003), *Adult Learning in Korea: Review and Agenda for the Future*, accessed 16 January 2008 from www.unesco.org/education/uie/pdf/country/Korea.pdf

Bailey, T., K. Hughes and M. Karp (2002), "What Role Can Dual Enrollment Programs Play in Easing the Transition Between High School and Postsecondary Education?", accessed 11 January 2008 from www.ed.gov/about/offices/list/ovae/pi/hs/bailey.doc

Bargh, C., J. Bocock, P. Scott and D. Smith (2000), *University Leadership: The Role of the Chief Executive*, London, Society for Research into Higher Education and Open University Press.

Bauer, M., B. Askling, S. Marton and F. Marton (1999), *Transforming Universities: Changing Pattern of Governance, Structure and Learning in Swedish Higher Education*, London: Jessica Kingsley.

Bennett, C. (1997), "Understanding Ripple Effects: the Cross-national Adoption of Policy Instrument for Bureaucratic Accountability", *Governance*, Vol. 10, No. 3.

Bennett, B (2002), "The New Style Boards of Governors – Are They Working?" *Higher Education Quarterly*, Vol. 56, No. 3.

Berdahl, R. (1990), "Academic Freedom, Autonomy and Accountability in British Universities", *Studies in Higher Education*, Vol. 15.

Berdahl, R. (1999), "Universities and Governments in the 21st Century" in Braun, D. & Merrien, F.-X. (eds.), *Towards a New Model of Governance for Universities? A Comparative View*, Jessica Kingsley, London/Philadelphia.

Birnbaum, R. (1983). Maintaining diversity in higher education. San Francisco, CA: Jossey-Bass.

Bladh, A. (1999), "Lifelong Learning in Swedish Higher Education", in A. Tuijnman and T. Schuller (Eds.), *Lifelong Learning Policy and Research*, London, Portland Press.

Bleiklie, I. (2000), "Policy Regimes and Policy Making", in M. Kogan *et al.* (Eds.), *Transforming Higher Education: A Comparative Study*, London, Jessica Kingsley.

de Boer, H. and L., Goedegebuure (2001), "On Limitations and Consequences of Change: Dutch University Governance in Transition", *Tertiary Education and Management*, Vol. 7, No. 2.

Bok, D. (2003), Universities in the Marketplace: The Commercialization of Higher Education, Princeton University Press, Princeton, NJ.

Braun, D. & Merrien, F.-X. (eds.) (1999), Towards a New Model of Governance for Universities? A Comparative View, Jessica Kingsley, London/Philadelphia.

Braun, D. (1999), "Changing Governance Models in Higher Education: The Case of the New Managerialism", *Swiss Political Science Review*, Vol. 5, No. 3.

Brown, W. (2001), "Faculty Participation in University Governance and the Effects on University Performance", *Journal of Economic Behavior and Organization*, Vol. 44, No. 2.

Brunner, J.J. (2006), "Mercados Universitarios: Ideas, Instrumentaciones y Seis Tesis en Conclusión", Manuscript, Universidad Adolfo Ibáñez, Santiago - Chile.

Brunner, J.J. and D. Uribe (2007), *Mercados universitarios: el nuevo escenario de la educación superior*, Ediciones Universidad Diego Portales, Santiago – Chile.

Cave, M., S. Hanney, M. Henkel and M. Kogan (1996), The Use of Performance Indicators in Higher Education: The Challenge of the Quality Movement 3rd ed., London, Jessica Kingsley Publishers.

Cheng, K-M. (2006), *New Workplace – New Education*, plenary paper presented at World Bank/Turkey Forum on Job Creation in Eastern Europe and Central Asia, Istanbul, 12-13 June 2006, accessed 15 January 2008 from http://siteresources.worldbank.org/INTECAEMPCON/Resources/Chengfinal.ppt

Cheng, K-M. (2007), "Learning Society: the East Asian Perspective", in M. Kuhn (Ed.), *New Society Models for a New Millennium: The learning Society in Europe and Beyond*, New York, Peter Lang.

CHEPS (2006), "The extent and impact of higher education governance reform across Europe", Final report to the Directorate-General for Education and Culture of the European Commission, "Part One: Comparative Analysis and Executive Summary", Enschede.

Clark, B. (1979), "The Many Pathways of Academic Coordination", *Higher Education*, Vol. 8, No. 3.

Clark, B. R. (1983), The higher education system: Academic organisations in cross-national perspective, University of California Press, Berkeley.

Clark, B. (1988), Creating Entrepreneurial Universities: Organizational Pathways of Transformation, Elsevier Science, Oxford.

Clark, B.R. (1998), Creating Entrepreneurial Universities; Organizational Pathways of Transformation, Pergamon, Oxford.

Clark, B. (2001), "The Entrepreneurial University: New Foundations for Collegiality, Autonomy, and Achievement", *Higher Education Management*, Vol. 13, No. 2.

Coaldrake, P., L. Stedman and P. Little (2003), *Issues in Australian University Governance*, accessed 19 January 2008 from www.chancellery.qut.edu.au/vc/governancefinal.pdf

Cohen-Vogel, L. and W. Ingle (2007), "When Neighbours Matter Most: Innovation, Diffusion and State Policy Adoption in Tertiary Education", *Journal of Education Policy*, Vol. 22, No. 3.

Colardyn, D. and J. Bjornavold (2004), "Validation of Formal, Non-Formal and Informal Learning: Policy and Practices in EU Member States", *European Journal of Education*, Vol. 39, No. 1.

Council of Europe (2000), "Universities as Sites of Citizenship and Civic Responsibility", Document DGIV/EDU/HE 36, Strasbourg, Council of Europe.

Cummings, W. (1998), "The Service University Movement in the US: Searching for Momentum", *Higher Education*, Vol. 35, No. 1.

Cummings, W. and A. Riddell (1992), "Alternative Policies for the Finance, Control, and Delivery of Basic Education", *International Journal of Educational Research*, Vol. 21, No. 8.

Cumpston, A., R. Blakers, C. Evans, M. Maclauchlan and T. Karmel (2001), Atlas of Higher Education: A Community Focus, DETYA Occasional Paper Series, No. 01A, Canberra, accessed 7 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/archives/

Dearing Committee (1997), *Higher Education in the Learning Society*, report of the National Committee of Inquiry into Higher Education, accessed 19 January 2008 from www.leeds.ac.uk/educol/ncihe/

Dearlove, J. (2002), "A Continuing Role For Academics: The Governance of UK Universities in the Post-Dearing Era", *Higher Education Quarterly*, Vol. 56, No. 3.

Department for Education and Skills (DfES) of the United kingdom (2003), *The Future of Higher Education*, accessed 19 January 2008 from www.dfes.gov.uk/hegateway/uploads/White%20Pape.pdf

Dill, D. D. (1997), "Higher education markets and public policy", *Higher Education Policy*, Vol. 10, No. 3-4.

Dill, D. D. and Teixeira, P. (2000) 'Program Diversity in Higher Education: an Economic Perspective', *Higher Education Policy*, Vol. 13, No. 1, pp. 99-117.

Ekström, E. (2003), *Essays on Inequality and Education*, Uppsala, Institute for Labour Market Policy Evaluation (IFAU).

Enders, J. (2004), "Higher Education, internationalisation, and the nation-state: Recent developments and challenges to governance theory", *Higher Education*, 47, pp. 361-382.

European Commission (1996), European Commission (1996), *Teaching and Learning. Towards the Learning Society*, White Paper, Brussels, European Commission.

Eurydice (2000), *Two decades of reform in higher education in Europe: 1980 onwards*, Brussels.

Felsenstein, D. (1996), "The University in the Metropolitan Arena: Impacts and Public Policy Implications", *Urban Studies*, Vol. 33, No. 9.

Ferlie, E., C. Musselin, and G. Andresani (2007), "The 'Steering' of Higher Education Systems: A Public Management Perspective", Paper prepared for the ESF project *Higher Education Looking Forward* (HELF), Brussels.

Figgis, J. and L. Parker (2002), University Credits for School Students, Canberra, DETYA, accessed 14 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Finlay, I., S. Niven and S. Young (1998), "Stakeholders, Consensus, Participation and Democracy", in Finlay, I, S. Niven and S. Young (Eds), *Changing Vocational Education and training: an International Comparative Perspective*, London, Routledge.

Fiske, E. (1996), *Decentralization of Education. Politics and Consensus*, Washington, World Bank.

Fuller, S. (2007), "Universities and the Future of Knowledge Governance from the Standpoint of Social Epistemology", in G. Neave (Ed.), *Knowledge, Power and Dissent: Critical Perspectives on Higher Education and Research in the Knowledge Society*, Paris, UNESCO.

Gibb, A. and P. Hanon (2007), *Towards the Entrepreneurial University?*, accessed 8 January 2008 from https://webspace.utexas.edu/cherwitz/www/articles/gibb_hannon.pdf

Goedegebuure, L. (1989), "Institutional Mergers and System Change: Reconstructing the Sector of Higher Vocational Education", in P. Maassen and F. van Vught (eds), *Dutch Higher Education in Transition: Policy Issues in Higher Education in the Netherlands*. Culemborg: Lemma.

Goedegebuure, L. and M. Hayden (2007), "Overview: Governance in higher education – concepts and issues", *Higher Education Research and Development*, Vol. 26, No. 1, March, pp. 1-11.

Goedegebuure, L., F. Kaiser, P. Maassen and E. de Weert (1993), "Higher Education Policy in International Perspective: An Overview", in L. Goedegebuure, F. Kaiser, P. Maassen, L. Meek, F. van Vught and E. de Weert (eds.), *Higher Education Policy: An International Comparative Perspective*, Oxford, Pergamon Press, pp. 1-12.

Gornitzka, Å. (1999), "Governmental policies and organisational change in higher education", *Higher Education*, 38, pp. 5-31.

Gornitzka, Å., M. Kogan, and A. Amaral (2005), *Reform and change in higher education. Analysing policy implementation*. Dordrecht, Springer.

Gornitzka, Å.and P.A.M. Maassen (2000), "Hybrid steering approaches with respect to European higher education", *Higher Education Policy*, 13, pp. 267-285.

Harman, G. and K. Harman (2003), "Institutional Mergers in Higher Education: Lessons from International Experience", Tertiary Education and Management, 9: pp. 29-44.

Hasan, A. (2007), *Independent Legal Status and Universities as Foundations*, a paper prepared for the Ministry of Science, Technology and Higher Education of Portugal, Paris.

Herbst, M. (2007), *Financing Public Universities, The Case of Performance Funding*, Springer.

Herbst, M. (2004), *Governance and Management of Research Universities: Funding and Budgeting as Instruments of Change*, Centre d'étude de la science et de la technologie, CEST.

Hoare, D. (1995), *Higher Education Management Review*, accessed 19 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Högskoleverket (2001), *Studenternas Resultat* [Student Results], Högskoleverkets rapportserie 2001:28R, Stockholm.

Högskoleverket (2005), *Redovisning av basårsutbildningen våren 2005* [Foundation Year Programmes, Report Spring 2005], Regeringsuppdrag reg. nr. 61-1346-05. 2005:22 R, Stockholm.

Huisman, J., L. Meek and F. Wood (2007), "Institutional Diversity in Higher Education: a Cross-National and Longitudinal Analysis", Higher Education Quarterly, v.61 (4), pp. 563-577.

Huisman, J. and C.C. Morphew (1998), 'Centralization and diversity: evaluating the effects of government policies in U.S.A. and Dutch higher education', *Higher Education Policy*, Vol. 11.

Huisman, J. and M. van der Wende (2004), "The EU and Bologna: Are Supra- and International Initiatives Threatening Domestic Agendas?, *European Journal of education*, Vol. 39, No. 3.

Jacobs, B. and F. van der Ploeg (2005), *Guide to Reform of Higher Education: A European Perspective*, CEPR Discussion Paper No. 5327, London, Centre for Economic Policy Research.

Johnstone, B., A. Arora, and W. Experton (1998), *The Financing and Management of Higher Education: A Status Report on Worldwide Reforms*, Washington, World Bank.

Jongbloed, B. (2003), "Marketisation in Higher Education, Clark's Triangle and the Essential Ingredients of Markets", Higher Education Quarterly, Vol. 57, No 2, Blackwell Publishing.

Kaiser, F., P. van der Meer, J. Beverwijk, A. Klemperer, B. Steunenberg and A van. Anne van Wageningen (1999), "Market type mechanisms in higher education: a comparative analysis of their occurrence and discussions on the issue in five higher education systems", CHEPS report / Higher Education Monitor Thematic report.

Kezar, A., and P. Eckel (2004), "Meeting Today's Governance Challenges", *Journal of Higher Education*, Vol. 75, No. 4.

King, R. P. (2007), "Governance and accountability in the higher education regulatory state", *Higher Education*, 53: pp. 411–430.

King, R. and N. Kyle (1993), *Link Programs in Australian Universities: an Evaluation of Higher Education Equity Programs Promoting School-Higher Education Links*, Canberra, DEST, accessed 14 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Kyvik, S. (2002), "The Merger of Non-university Colleges in Norway", *Higher Education* 44 (1), pp. 53–72.

Lapworth, S. (2004), "Arresting Decline in Shared Governance: Towards a Flexible Model for Academic Participation", *Higher Education Quarterly*, Vol. 58, No. 4.

Lee, H. (1987), "The Nature and Scope of Student Participation in Policy-Making in Academic Government", Proceedings of the 6th International Seminar Current Issues in University Education of Korea and Japan, Seoul, Korean Council for University Education.

Lindell, M. (2004), "From Conflicting Interests to Collective Consent in Advanced Vocational Education: Policymaking and the Role of Stakeholders in Sweden", *Journal of Education and Work*, Vol. 17, No. 2.

Maassen, P. (2000), "The Changing Roles of Stakeholders in Dutch University Governance", *European Journal of Education*, Vol. 35, No. 4.

Marginson, S. and G. Rhoades (2002), "Beyond national states, markets, and systems of higher education: A glonacal agency heuristic", Higher Education, 43, pp. 281-309.

Marginson, S. and M. Considine (2000), *The Enterprise University: Power, Governance and Reinvention in Australia*, Cambridge University Press, Cambridge.

Martin, Y. and T. Karmel (2002), *Expansion of Higher Education in the 1990s: Effects on Access and Student Quality*, Canberra, DEST, accessed 11 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Massy, W. (2003), *Honoring the Trust: Quality and Cost Containment in Higher Education*, Anker Publishers.

McAllister, I. (1997), *Working with the Region*, Halifax, Dalhousie University.

McDaniel, O.C. (1996), "The paradigms of governance in higher education systems", *Higher Education Policy*, Volume 9, No. 2.

McGrath, E. (1970), *Should Students Share the Power?* Philadelphia, Temple University Press.

McLaughlin, M. (2003). *Tertiary Education Policy in New Zealand*, Ian Axford Fellowship Report, available from www.fulbright.org.nz/voices/axford/docs/mcLaughlin.pdf

McLendon, M., D. Heller and S. Young (2005), "State Post-secondary Education Policy Innovation: Politics, Competition, and the Interstate Migration of Policy Ideas", *Journal of Higher Education*, Vol. 76, No. 4.

McMaster, M. (2007), "Partnerships Between Administrative and Academic Managers: How Deans and Faculty Managers Work Together", Association of Tertiary Education Management, accessed 18 January 2008 from www.atem.org.au/downloads/doc/018_mcmaster.doc

McNay, I. (1999), "Changing Cultures in UK Higher Education" in Braun, D. & Merrien, F.-X. (eds.) (1999), *Towards a New Model of Governance for Universities? A Comparative View*, Jessica Kingsley, London/Philadelphia.

Meek, L and F.Q. Wood (eds) (1998), 'Managing Higher Education Diversity in a Climate of Public Sector Reform', Department of Employment, Education, Training and Youth Affairs, Canberra.

Ministerial Council on Education, Employment, Training and Youth Affairs of Australia (MCEETYA) (2005), *Good Practice Principles for Credit Transfer and Articulation from VET to Higher Education*, accessed 16 January 2008 from www.mceetya.edu.au/public/credittransfer.htm

Ministry of Education, New Zealand (2002). *Tertiary Education Strategy, 2002/07*. Wellington: Ministry of Education.

Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan (2007), "New Developments in Higher Education Reform", in *White Paper on Education, Culture, Sports, Science and Technology*, accessed 15 September 2007 from www.mext.go.jp/b_menu/hakusho/html/hpac200301/hpac200301_2_021.html

Mintzberg, H. (1979), *The Structuring of Organizations: A Synthesis of the Research*, Englewood Cliffs, Prentice-Hall.

Mora, J-G. (2001), "Governance and Management in the New University", *Tertiary Education and* Management, Vol. 7, No. 2.

Neave (2006), "Governance, Power and Coordination", *IAU Horizons: World Higher Education News*, February, Vol. 11.4 -12.1, International Association of Universities, Paris.

Neave, G. (2001), 'The European dimension in higher education: an excursion into the modern use of historical analogues', in J. Huisman, P. Maassen and G. Neave (eds.) Higher Education and the Nation: The International Dimension of Higher Education, Oxford: Pergamon, pp. 13–73.

Neave, G. (1998), "The Evaluative State Re-visited," *European Journal of Education*, Vol. 33, No. 3, pp. 265-284.

Neave, G. (1988) 'On the Cultivation of Quality, Efficiency and Enterprise: An Overview of Recent Trends in Higher Education in Western Europe, 1986-1988', European Journal of Education, Vol. 23, No. 1/2, pp. 7-23.

Neave, G. and F. A. van Vught (eds.) (1994), *Government and Higher Education Relationships Across Three Continents: The Winds of Change*, Pergamon Press, Oxford.

Neave, G. and F. A. van Vught (1991), *Prometheus Bound: the Changing Relationship between Government and Higher Education in Western Europe***,** Pergamon Press, Oxford.

Newby, H. (1999), *Higher Education in the 21st Century: Some Possible Futures*, Paper for the Committee of Vice-Chancellors and Principals, London, 5 March.

New Zealand Qualifications Authority (NZQA) (2002), *Supporting Learning Pathways: Credit Recognition and Transfer Policy*, accessed 16 January 2008 from www.nzqa.govt.nz/qualifications/creditpolicy.pdf

Norbäck, L. (2000), "New Modes of Internal Governance of Higher Education Institutions: The case of Göteborg University", *Tertiary Education and Management*, Vol. 6, No. 1.

OECD (1999), *The Response of Higher Education Institutions to Regional Needs*, Paris, OECD.

OECD (2000), *From Initial Education to Working Life: Making Transitions Work*, Paris, OECD.

OECD (2001a), "Lifelong Learning for All: Policy Directions", in *Education Policy Analysis – 2001 Edition*, Paris, OECD.

OECD (2001b), "Competencies for the Knowledge Economy", in *Education Policy Analysis – 2001 Edition*, Paris, OECD.

OECD (2003), "Changing Patterns of Governance in Higher Education", *Education Policy Analysis 2003*, Chapter 3, OECD, Paris.

OECD (2004), *Career Guidance and Public Policy: Bridging the Gap*, Paris, OECD.

OECD (2006a), "A Conceptual and Analytical Framework for Review of National Regulatory Policies and Practices in Higher Education", Paper prepared for discussion at OECD's Education Committee (EDU/EC(2006)3), OECD.

OECD (2006b), *Enhancing the Role of Higher Education Institutions in Regional Development*, paper presented to the Territorial Development Policy Committee, Paris, OECD.

OECD (2007a), *Education at a Glance*, Paris, OECD.

OECD (2007b), *Higher Education and Regions: Globally Competitive, Locally Engaged*, Paris, OECD.

OECD (2007c), *Evidence in Education: Linking Research and Policy*, Paris, OECD.

OECD/IMHE (2007), "On the Edge: Securing a Sustainable Future for Higher Education", Report of the OECD/IMHE-HEFCE Project on Financial Management and Governance of Higher Education Institutions, *OECD Education Working Paper*, No. 7, pp. 55.

Orr, M. (1998), "Integrating Secondary Schools and Community Colleges Through School-to-work Transition and Education Reform", *Journal of Vocational Education Research*, Vol. 23, No. 2.

Orr, M. (1999), *Community College and Secondary School Collaboration on Workforce Development and Education Reform: A Close Look at Four Community Colleges*, New York, Community College Research Center, Columbia University.

Parker, L. and G. Gould (1999), "Changing Public Sector Accountability: Critiquing New Directions", *Accounting Forum*, Vol. 23, No. 2.

Perotti, L. (2007), "Institutional Change in the Spanish Higher Education System", *European Journal of Education*, Vol. 42, No. 3.

Porter, M. (1998), "Clusters and the New Economics of Competition". *Harvard Business Review*, Clusters November-December.

Portfelt, I. (2002), *Adaptability of a University Organisation*, accessed 19 January 2008 from www.utwente.nl/cheps/documenten/susuportfelt.pdf

Raffe, D., K. Brannen, J. Fairgrieve and C. Martin (2001) **"**Participation, Inclusiveness, Academic Drift and Parity of Esteem: a comparison of post-compulsory education and training in England, Wales, Scotland and Northern Ireland" *Oxford Review of Education*, Vol. 27, No. 2.

Ramsay, E., D. Trantor, S. Charlton and R. Summer (1998), *Higher Education Access and Equity for Low SES School Leavers: A Case Study*, Canberra, DEST, accessed 14 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Rhodes, F. (2001), *Creation of the Future: The Role of the American University*, Ithaca, Cornell University Press.

Roedelé, S. and P. Aamodt (2001), *Studiemobilitet i høyere utddanning*, Oslo, NIFU.

Rogers, K., and R. Kimpston (1992), "Acceleration: What we Do *vs.* What we Know", *Educational Leadership*, Vol. 50, No. 2.

Rowland Eustace, R., (1982), "British Higher Education and the State," *European Journal of Education*, Vol. 17, No. 3, pp. 283-294.

Salmi, J. (2003), "Indicators for Tertiary Education Reform: a World Bank Perspective", in A. Yonezawa and F. Kaiser (Eds.), *System-Level and Strategic Indicators for Monitoring Higher Education in the Twenty-First Century. Studies on Higher Education*, Bucarest, UNESCO-CEPES.

Salter, B. G. and Tapper E.R. (1995), "The Changing Idea of University Autonomy", *Studies in Higher Education*, Vol. 20, No. 1.

Shoemaker, A., J. Allison, K. Gum, R. Harmoni, M. Lindfield, M. Nolan and L. Stedman (2002), *Multi-Partner Campuses: the Future of Australian Higher Education?*, Canberra, DEST, accessed 17 January 2008 from www.dest.gov.au/sectors/higher_education/publications_resources/profiles/

Skolnik, M.L. (1986), 'Diversity in higher education: the Canadian case', Higher Education in Europe, Vol. 11, No. 2.

Smith, D., L. Baston, J. Bocock and P. Scott (2002), "Americanization and UK Higher Education: Towards a History of Transatlantic Influence on Policy and Practice", *Journal of Education Policy*, Vol. 17, No. 4.

Sporn, B. (1999), Adaptive University Structures: An Analysis of Adaptation to Socioeconomic Environments of US and European Universities, Jessica Kingsley, London.

Sporn, B. (2001), "Building Adaptive Universities: Emerging Organizational Forms Based on Experiences of European and US Universities", *Tertiary Education and Management*, Vol. 7, No. 2.

Sporn, B. (2002), "World class reform of universities in Austria", *International Higher Education*, No. 29 (Fall), pp. 18-19.

Sporn, B. (2003), "Convergence of Divergence in International Higher Education Policy: Lessons from Europe", accessed 18 January 2008 from www.educause.edu/content.asp?page_id=666&ID=FFPFP0305&bhcp=1

Stamoulas, A. (2006), "Greece before the Bologna Process: Confronting or Embracing Quality Assurance in Higher Education?", *Higher Education Policy*, Vol. 19, No. 4.

Steier, F. (2003), "The Changing Nexus: Tertiary Education Institutions, the Marketplace and the State", *Higher Education Quarterly*, Vol. 57, No. 2 (April), pp. 158-180.

Tertiary Education Commission (TEC) of New Zealand (2003), *Collaborating for Efficiency: Report of the Steering Group*, accessed 17 January 2008 from www.tec.govt.nz/upload/downloads/cfesteering_overview_report.pdf

Theisens, H. (2004), *The State of Change – Analysing Policy Change in Dutch and English Higher Education*, Ph.D. dissertation, CHEPS, University of Twente, Enschede.

Thorens, J. (2006), "Liberties, Freedom and Autonomy: A Few Reflections on Academia's Estate", *Higher Education Policy*, Vol. 19 No. 1, March.

Tjeldvoll, A. and K. Holtet (1998), "The service university in a service society: The Oslo case", *Higher Education*, Vol. 35, No. 1.

Toma, J.D. (2007), "Expanding peripheral activities, increasing accountability demands and reconsidering governance in US higher education", *Higher Education Research and Development*, Vol. 26, No. 1, March, pp. 57-72.

Trowler, P. (2002), *Higher Education Policy and Institutional Change: Intentions and Outcomes in Turbulent Environments*, London, Society for Research into Higher Education and Open University Press.

Ugreninov, E. and O. Vaage (2005), *Studenters Levekår 2005*, Statistisk Sentralbyrå, Rapport 2006/22.

van Vught, F.(1989), *Governmental Strategies and Innovation in Higher Education*, Jessica Kingsley, London.

Wells, J., J. Sadlak and L. Vlasceanu (Eds.) (2007), *The Rising Role and Relevance of Private Higher Education in Europe*, UNESCO-CEPES and the Cluj University Press, Bucharest/Cluj.

Williams, G. (1996), the many faces of privatization. *Higher Education Management.*

de Wit, K., and J-C. Verhoeven, (2000), "Stakeholders in Universities and Colleges in Flanders", *European Journal of Education*, Vol. 35, No. 4.

Wojcicka, M. (2004), "Reform in Polish Vocational Education", *European Journal: Vocational Training*, No. 33.

Wood, D. (1993), "Faculty, Student, and Support Staff Participation in College Governance: An Evaluation", accessed 19 January 2008 from www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/c6/c1.pdf

Woodrow, M. (1999), "The Struggle for the Soul of Lifelong Learning", *Widening Participation and Lifelong Learning*, Vol. 1, No. 1, accessed 2 January 2008 from www.staffs.ac.uk/journal/Volume1(1)/ed-2.htm

World Bank (2000), *Higher Education in Developing Countries: Peril and Promise*, Washington, World Bank.

Zuo, B. and E. Ratsoy (1999), "Student Participation in University Governance", *Canadian Journal of Higher Education*, Vol. 29, No. 1.

# 4. Matching Funding Strategies with National Priorities

## 4.1 Introduction

Funding mechanisms are especially important in shaping tertiary education outcomes in areas such quality, efficiency, equity and system responsiveness. This chapter analyses approaches to funding tertiary education which assist tertiary education systems achieve their goals.[49] It reviews a number of principles for funding tertiary education, provides an overview of approaches to funding tertiary education in participating countries, and summarises the empirical evidence on the impact of specific approaches to funding tertiary education. It includes overall funding strategies, mechanisms to allocate funds to individual tertiary education institutions (TEIs), and strategies to assist students cover the costs of their participation. Particular attention is given to policy initiatives in participating countries. The chapter concludes with a set of policy options for countries to consider.

## 4.2 Trends in funding tertiary education

*Expenditure per student on TEIs varies significantly across countries*

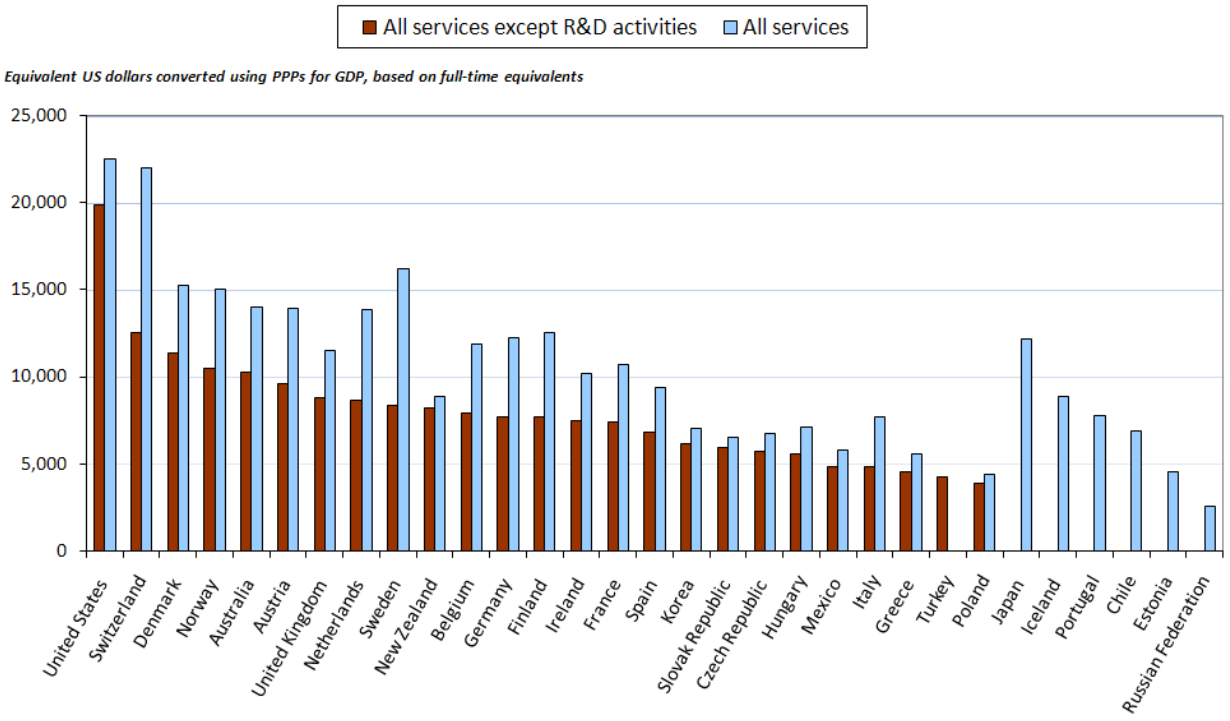
Figure 4.1 shows the level of annual expenditure on TEIs per student in 2004, both including and excluding R&D activities.[50] It reveals a great disparity of levels of funding per student received by institutions of tertiary education across countries. If we include R&D activities, countries exhibiting the largest levels of spending on tertiary institutions per student are Australia, Austria, Denmark, Norway, the Netherlands, Sweden, Switzerland and the United States. By contrast, Estonia, Greece, Mexico, Poland and the Russian Federation have, among the countries for which data are available, the lowest levels of spending per student on TEIs, with levels below one fourth of that for the United States. The position of countries changes little if expenditure on R&D is excluded: the United Kingdom appears among the countries with the highest levels of spending while Italy and Turkey come into view among the countries with the lowest levels of spending per student. It is interesting to observe that, if expenditure on R&D activities is excluded, the level of spending per student on tertiary institutions in the United States is more than twice the expenditure in nearly all the countries for which data are available, with the exceptions of Australia, Denmark, Norway and Switzerland.

49 Funding for research in tertiary education institutions is analysed in Chapter 7.

50 Includes both public and private expenditure. It should also be noted that expenditure on tertiary education not allocated to institutions (*e.g.* expenditure directly allocated to student support) is not included.

Figure 4.2 displays the level of expenditure on TEIs relative to GDP in 1995, 2000 and 2004.[51] Displaying expenditure levels relative to countries' GDP, changes somewhat the relative positioning of countries. In 2004, while Australia, Denmark, Sweden, Switzerland and the United States remain among the countries with the highest levels of expenditure, Chile, Finland, Korea and Poland emerge in that group when such expenditure is relative to GDP. By contrast, while Estonia, Italy, the Russian Federation and Turkey remain among the countries with the lowest levels of spending on tertiary institutions when countries' wealth is taken into account, the Czech Republic, Hungary, Portugal and the Slovak Republic become now part of that group. Considering the variation between 1995 and 2004, the most significant increases in the proportion of national wealth dedicated to spending on TEIs were observed in Chile, Greece, Slovak Republic, Switzerland, Turkey and the United States. By contrast, such proportion declined more notably in Finland, Ireland, the Netherlands and Norway.

**Figure 4.1. Annual expenditure on TEIs per student, 2004**



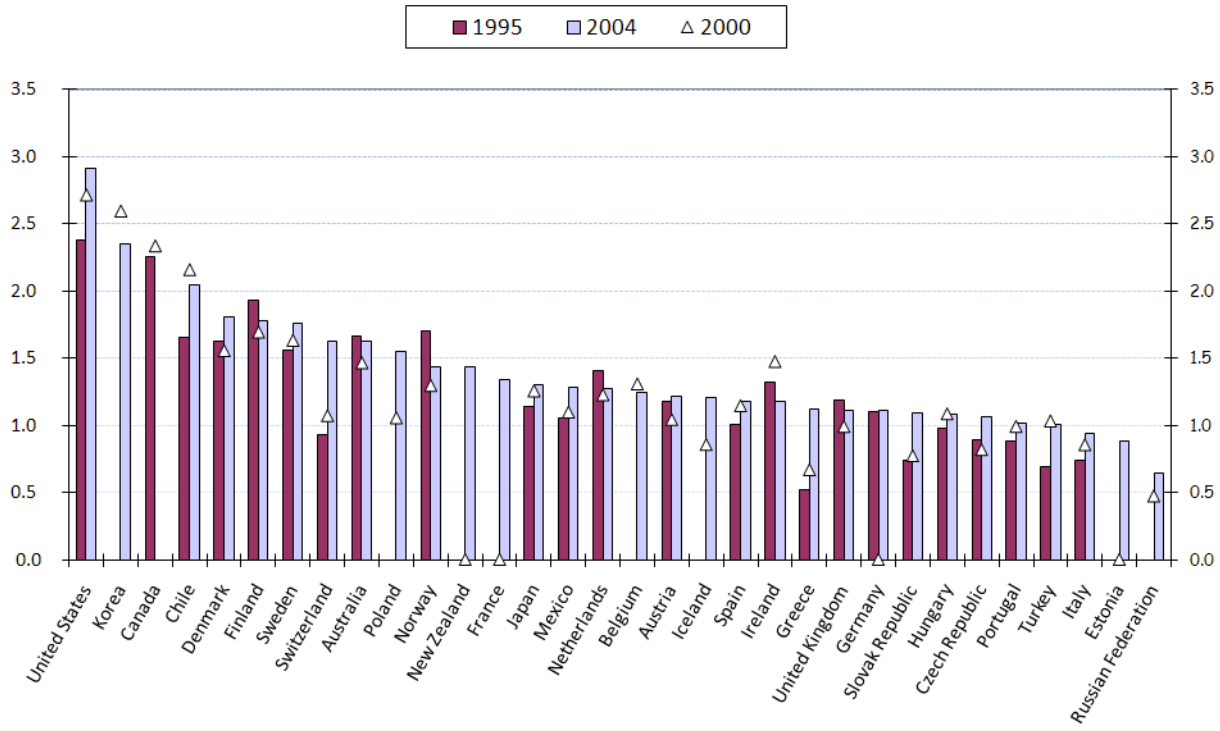

*Countries are ranked in descending order of annual expenditure on TEIs per student on all services except R&D activities.*

*Note:* Data refer to public institutions only for Estonia, Hungary, Italy, Poland, Portugal, Switzerland, Russian Federation and Turkey. The reference year for Chile is 2005.

*Source:* OECD (2007a).

51 See Footnote 50.

**Figure 4.2. Expenditure on TEIs as a percentage of GDP, 1995, 2000 and 2004**




*Countries are ranked in descending order of expenditure on TEIs as a percentage of GDP for 2004.*

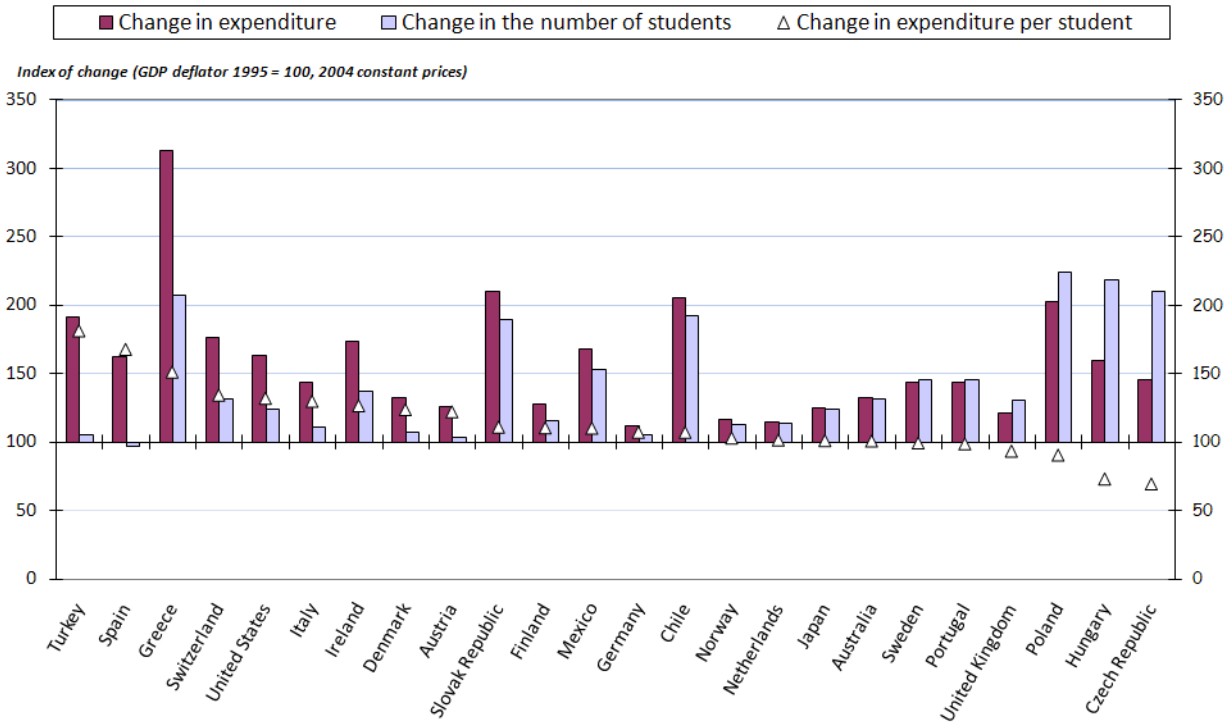
*Note:* For Estonia, Norway and the Russian Federation only expenditure from public sources is considered. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2007a).

### *Total expenditure per student on TEIs did not deteriorate between 1995 and 2004 in most countries…*

Figure 4.3 displays the change in expenditure per student on TEIs between 1995 and 2004 when both public and private sources are considered. The main conclusion is that only a few countries – the Czech Republic, Hungary, Poland, Portugal, Sweden and the United Kingdom – experienced a decline in the expenditure per student on TEIs between 1995 and 2004, and significantly so only in Poland (10%), Hungary (27%) and the Czech Republic (31%). As a result of the expansion of student numbers in all countries (except Spain), total (real) expenditure on TEIs increased in all countries displayed during the period considered. Significant increases in expenditure per student on TEIs occurred in Greece, Spain and Turkey.

**Figure 4.3. Change in expenditure per student on TEIs between 1995 and 2004, public and private sources**




*Countries are ranked in descending order of change in expenditure per student between 1995 and 2004.*

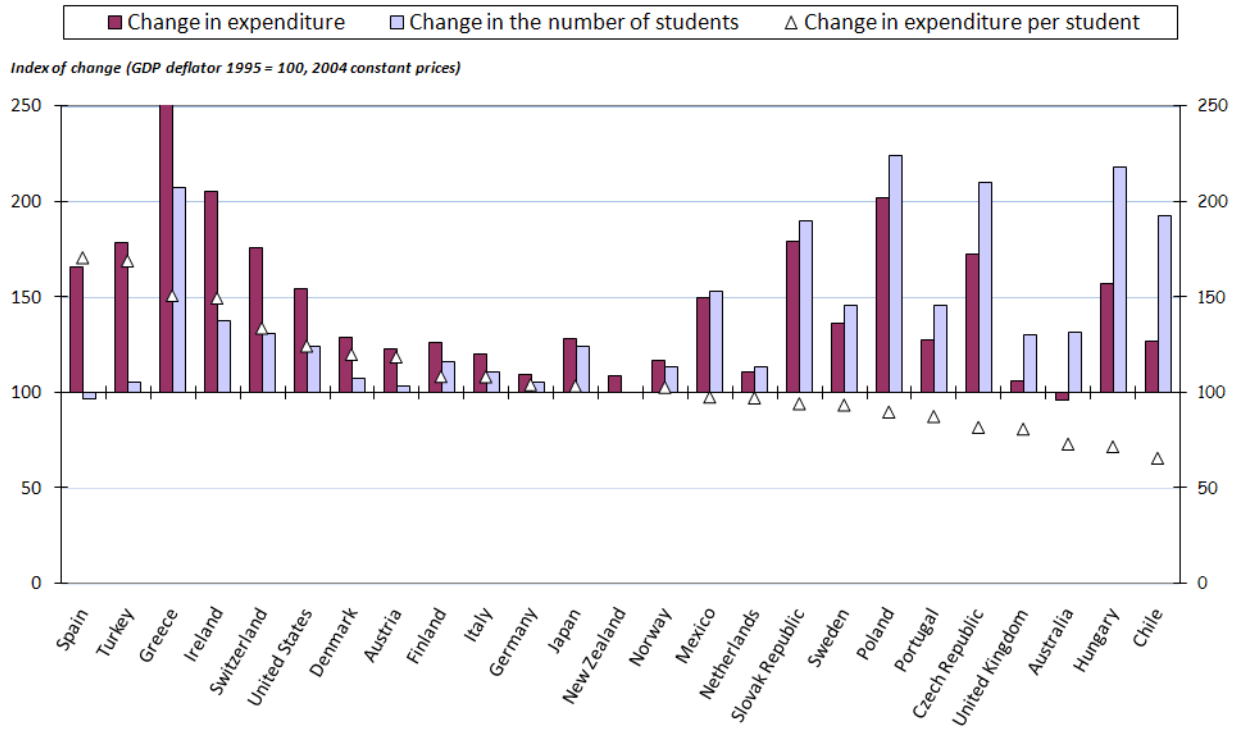
*Note:* For Denmark and Japan data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. For Greece, New Zealand, Norway, Poland and Switzerland only expenditure from public sources is considered. For Hungary, Poland, Portugal, Switzerland and Turkey data refer to public institutions. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2007a).

### *But in about half of the countries public expenditure per student on TEIs declined between 1995 and 2004*

Considering public sources only, a different picture emerges. Figure 4.4 shows that in about half of the countries for which data are available, public expenditure per student on TEIs declined between 1995 and 2004, with acute drops in Chile (34%), Hungary (28%), Australia (27%), the United Kingdom (19%) and the Czech Republic (18%). Bringing together the information displayed on Figures 4.3 and 4.4 indicates that, in light of the expansion of tertiary systems, some countries (*e.g.* Australia, Chile, Mexico, the Netherlands, Portugal, the Slovak Republic and the United Kingdom) were able not to deteriorate significantly the resources per student made available to institutions by increasing the level of private funding in tertiary education. During this period, public expenditure per student on tertiary institutions increased appreciably in Spain (71%), Turkey (69%), Greece (51%) and Ireland (50%).

**Figure 4.4. Change in expenditure per student on TEIs between 1995 and 2004, public sources only**




*Countries are ranked in descending order of change in expenditure per student between 1995 and 2004.*

*Note:* For Denmark and Japan data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. For Hungary, Poland, Portugal, Switzerland and Turkey data refer to public institutions only. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2007a).

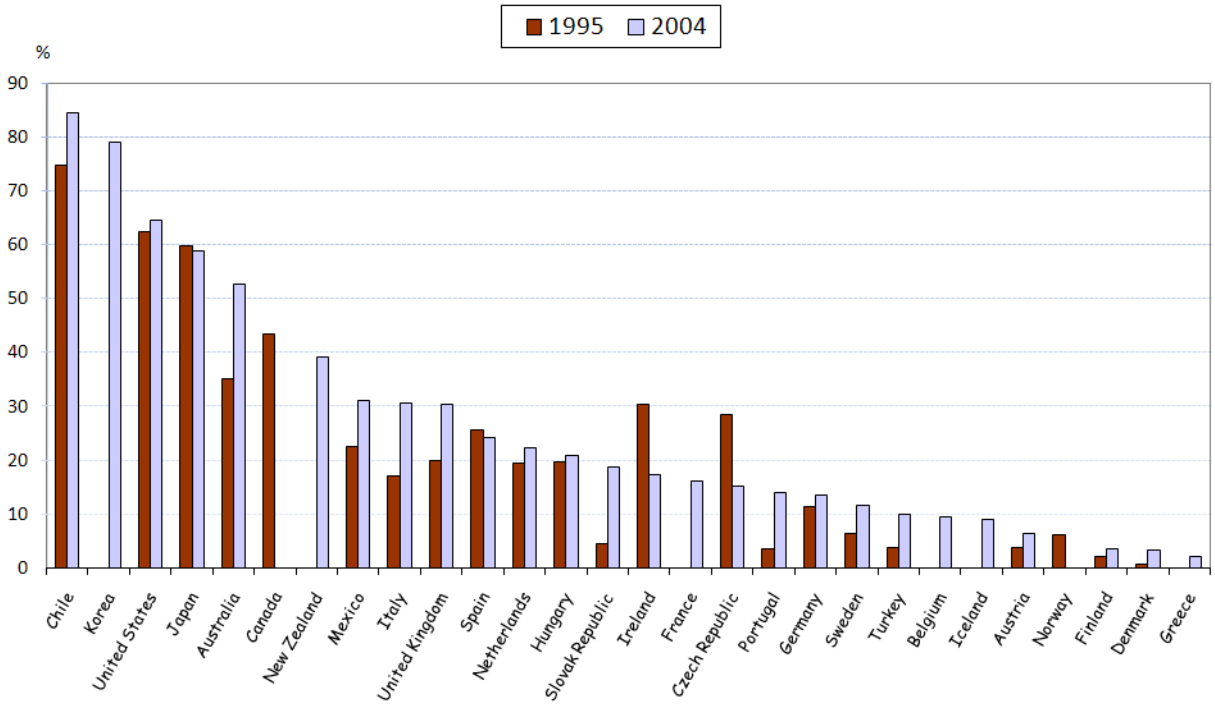
### *The proportion of private expenditure on TEIs varies greatly across countries but has grown in most countries between 1995 and 2004*

Figure 4.5 illustrates the relative proportion of private expenditure on TEIs between 1995 and 2004. In 2004, the proportion of private expenditure on TEIs varied extensively across countries ranging from about 2% in Greece to about 85% in Chile. A group of countries rely heavily on private funding: Australia, Chile, Japan, Korea, New Zealand and the United States, all of which exhibit a proportion of private expenditure above 35%. By contrast, another group of countries rely little on private funding: Austria, Belgium, Denmark, Finland, Greece, Iceland, Norway and Turkey, all of which display a proportion of private expenditure below 10%. However, it is noticeable that such proportion grew in 16 of the 20 countries for which data are available for both 1995 and 2004 (the exceptions are the Czech Republic, Ireland, Japan and Spain). Increases were more remarkable in Australia, Chile, Italy, Mexico, Portugal, the Slovak Republic, Turkey and the United Kingdom.

Other trends in funding tertiary education include the decline of expenditure per student on tertiary education relative to expenditure per student at pre-tertiary levels of education, the expansion of student support systems, and the allocation of public funding

to tertiary institutions increasingly on the basis of performance and competitive procedures. These trends are analysed later in the chapter.

**Figure 4.5. Relative proportion of private expenditure on TEIs, 1995 and 2004**




*Countries are ranked in descending order of the relative proportion of private expenditure on TEIs in 2004.*

*Note:* Includes subsidies attributable to payments to educational institutions received from public sources. *Private expenditure* refers to expenditure funded by private sources, *i.e.*, households (students and their families) and other private entities. *Household expenditure* includes payments to educational institutions (including tuition fees, registration fees, laboratory fees, charges for teaching materials such as books, payments for lodging, meals, health services and other welfare services provided by institutions) and payments on educational goods and services purchased outside educational institutions (*e.g.* private tutoring, educational goods such as textbooks and computers). Expenditure by "other private entities" consists of direct payments to educational institutions (contributions to vocational and technical schools from business or labour organisations; payments by private companies to universities under contracts for research, training, or other services; grants to educational institutions from non-profit organisations; charitable donations to educational institutions; rents paid by private organisations; earnings from private endowment funds; and expenditure by private employers on the training of apprentices and other participants in combined school- and work-based educational programmes) and financial aid to students or households (scholarships provided by businesses and non-profit organisations; student loans from banks and other private lenders).

For Denmark, Iceland and Japan data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2007a).

## 4.3 Why do governments intervene in and subsidise tertiary education?

Economic theory provides widely accepted underlying principles to justify governmental intervention in (and public funding of) tertiary education. Concerns at two

levels provide the rationale for government's involvement: efficiency concerns, often called *market failures*; and equity concerns, mostly related to providing equal educational opportunities to all. The involvement of the government ranges from regulation through subsidisation to production of tertiary education services.

### *4.3.1 Efficiency concerns*

According to economic theory, a case for governmental intervention occurs whenever a prerequisite for a *perfectly competitive market* is not met (an instance known as a *market failure*).[52] In the area of tertiary education, the major established *market failures* are the externalities[53] generated by tertiary education activities, the imperfection of human capital markets and the incomplete information in the tertiary education sector.

*External (non-private) benefits generated by an individual's tertiary education are not taken into account in his or her private decision to invest in tertiary education (externalities)*

As explained in Chapter 2, the social benefits of education can be categorised as follows:

1. Private monetary benefits (*e.g.* higher lifetime earnings, employment advantage);

2. Private non-monetary benefits (*e.g.* better individual health, enhancement of lifestyle); and

3. External (non-private) benefits, both monetary and non-monetary (*e.g.* education's contribution to R&D and to diffusion of new technology; reduction of crime rate and lower incarceration costs; healthier lifestyles and reduction of health care expenditure).

Educational externalities are benefits from the education of each individual that benefit others in the society in both current and future generations and which are not appropriated by the individual receiving the education. They are over and above the private benefits that the individual decision maker takes into account in making his or her private decision to invest in education (McMahon, 2004). The externality benefits, which

52 *The Fundamental Theorem of Welfare Economics* defines the circumstances under which markets (*i.e.* no intervention of governments) can be expected to perform well from those under which markets fail to produce 'desirable' results. According to this theorem, "under a *perfectly competitive market* a (Pareto) efficient allocation of resources emerges". A 'Pareto efficient' allocation of resources is one at which the only way to make one person better off is to make another person worse off. A perfectly competitive market exists if: *(i)* all productive resources are privately owned; *(ii)* all transactions take place in markets, and in each separate market many competing sellers offer a standardised product to may competing buyers; *(iii)* economic power is dispersed in the sense that no buyers or sellers alone can influence prices; and *(iv)* all relevant information is freely available to buyers and sellers (Rosen, 2005). In the market for tertiary education services, the fact that prerequisites *(ii)* and *(iv)* are not met is used to establish that a market *per se* is not likely to produce 'desirable' results from the societal point of view and therefore there is scope for government to intervene and enhance efficiency. However, the fact that the market-generated allocation of resources is imperfect does not necessarily mean that the government intervention will lead to a better outcome.

53 See definition in Footnote 10 of Chapter 2.

correspond to the last of the social benefits in the classification above, are taken for granted and do not affect private decisions. Ignoring externality benefits leads individuals to under invest in education leading to an inefficient outcome from a societal point of view (one in which the 'desirable' level of social benefits of education is not achieved). This inefficiency calls for governmental support for education so levels of consumption reach what is optimal from a societal point of view. This is known as the externalities argument to justify public subsidies in education.

The externalities argument is quite convincing for pre-tertiary education and the more so the lower is the educational level. For instance, one person's acquired ability to read undoubtedly brings benefits to society beyond those which can be appropriated by the individual (*e.g.* car traffic would be chaotic if drivers could not read traffic signs). Some authors argue that the externalities argument is not as compelling for tertiary education.

A complexity is associated with the difficulties in measuring educational externalities. While it is accepted that such externalities are generated in tertiary education, little is known about their importance relative to the private benefits of tertiary education (see Chapter 2). The lack of accurate estimates for their relative importance hinders the precise determination of the extent to which tertiary education should be publicly subsidised.

*Individuals cannot easily borrow against the value of their human capital (imperfection of human capital markets)*

Tertiary education confers monetary benefits in the future but costs might need to be borne in the present, which leads some individuals to face liquidity constraints at the time they decide whether or not to undertake studies at the tertiary level. This is particularly the case for socio-economically disadvantaged students who have less money available to finance their studies up front.

Constraints would be considerably reduced if a market for investments in human capital could efficiently provide liquidity for students. But the reality is that individuals cannot easily borrow against the value of their human capital. Commercial banks are reluctant to lend money because as human capital cannot be repossessed (*e.g.* slavery is not a possibility) there is no good collateral to secure the repayment of loans (as with a loan for a house, which works as the collateral). In such a market, banks cannot easily assess the risk of students' default which would lead to loans with high interest rates, credit rationing or simply the non provision of loans. Under these conditions, and given that students are risk averse, the level of credit provided is likely to be low and those who do not have access to sufficient personal resources will fail to invest in tertiary education even if future benefits outweigh the costs.

This market failure is known as the imperfection of human capital markets and generally causes underinvestment in tertiary education. It provides another case for governmental intervention. Such intervention typically takes the form of financial assistance to students either in the form of non-repayable assistance (grants) or in the form of repayable assistance through publicly-provided loan schemes or commercially-provided loan schemes with an interest rate publicly subsidised and/or a loan guaranteed by the government (where the government acts as the guarantor for the student).

*Individuals have incomplete information about the risks of investing in tertiary education (incomplete information)*

Another rationale for government's intervention relates to incomplete information students have about the risks of investing in tertiary education. Tertiary education is risky in the sense that it provides uncertain benefits. There are essentially two types of risks involved in the acquisition of tertiary education:

- The risk that each student faces of not having the required abilities to benefit;
- The risk that the tertiary education that the student acquires does not provide him or her with higher lifetime income or better employment opportunities.

Students fear unemployment, low earnings and high levels of debt. If students are not appropriately informed about the benefits of tertiary education, the risks associated with investments in tertiary education, the repayment conditions of credit systems and if they are not adequately protected against risk, underinvestment in tertiary education is likely to result. This provides an additional rationale for governmental intervention. The role of the government in this case is to: *(i)* appropriately inform students about options, costs, benefits, and conditions of tertiary education; and *(ii)* defend students against the risks of investing in tertiary education.

### *4.3.2 Equity concerns*

Another rationale for governmental intervention relates to fairness. Indeed, economic theory stipulates that an efficient allocation of resources is not necessarily *fair* in the sense that a given social welfare function (*i.e.* an arbitrary statement of how society's well-being relates to the well-being of its individual members) does not reach its optimal value. Hence, even if an efficient outcome is reached, a government intervention may be necessary to achieve a *fair* distribution of educational resources. In the area of tertiary education, this usually translates into two types of intervention by the government: *(i)* ensuring equal educational opportunities to individuals; and *(ii)* using tertiary education as a vehicle for social mobility (see Chapter 6). Governmental intervention in this domain is also likely to enhance social cohesion.

*Individuals should not be denied educational opportunities as a result of a specific disadvantage (equal educational opportunity)*

It is widely accepted that individuals with the aptitude and desire to benefit from tertiary education should not be denied opportunities as a result of a given disadvantage. The government plays a role in ensuring that educational opportunities are not a function of factors such as socio-economic status, region of residence, race, religion, ethnicity, disability or gender. This is achieved through programmes to promote access to and successful completion of tertiary education by groups identified as having a specific type of disadvantage.

### *4.3.3 Other objectives*

The government might seek to achieve other objectives through tertiary education. Tertiary education is sometimes identified as having potential redistributive effects. This gives the opportunity for tertiary education to affect social mobility or, more narrowly, intergenerational income mobility and reduce income disparities across particular groups.

Hence the government could use tertiary education to achieve social mobility (see Section 6.3 in Chapter 6).

Other objectives for governments to intervene in and subsidise tertiary education may include social cohesion, international aid for development, regional development, preservation of small languages, promotion of national identity and culture or enhancement of civil service.

## 4.4 Why should students (or graduates) contribute to the costs of tertiary education?

### *4.4.1 Forms of and trends in cost-sharing in countries*

*Costs of tertiary education are borne by different parties*

Costs of tertiary education are typically shared between four principal groups (Johnstone, 2004):

- *The government (or taxpayers)* subsidises tertiary education mostly through tax revenues (*e.g.* taxation upon earnings, property, retail sales, general consumption).[54]
- *Parents and family* may bear some costs of tertiary education through the payment of tuition fees, or by covering some of the student living costs (*e.g.* by keeping the student at home). Parents or family might cover these costs through current income, past savings, or borrowing.
- *Students* may bear part of the tuition and living costs through part-time employment earnings, past savings, non-repayable public financial assistance or borrowing.
- *Individual donors* may contribute to institutional budgets (reducing the amount that must be passed onto the government, parents or students) or financially assist some students through grants.[55]

The term *cost-sharing* therefore refers to the split of tertiary education costs between the parties described above. Often, the term is used to refer to the contributions of students or families relative to those provided by the government or taxpayers.

*The burden of tertiary education costs is shifting from governments or taxpayers to students and families*

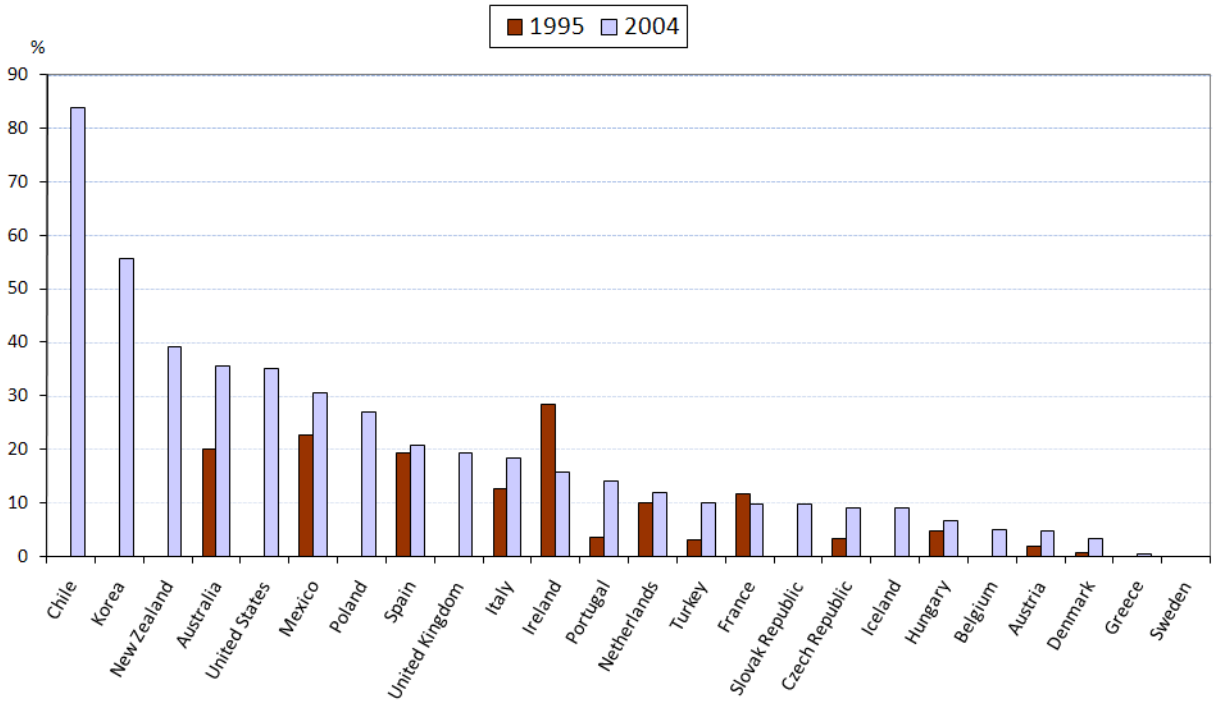
In recent years, there has been a shift of tertiary education costs from being borne predominantly by governments to being shared with students and their families. The extent to which households contribute to the costs of tertiary education varies greatly across countries (see Figure 4.6). The proportion of private household expenditure on

54 As Johnstone (2004) explains, taxes can also be paid by citizens indirectly (as when taxes on businesses are passed onto consumers in the form of higher prices) and the government may fund tertiary education by merely printing money which takes purchasing power from citizens via deficit-driven inflation.

55 Institutions of tertiary education also raise revenues from external sources (*e.g.* businesses) by selling services. These revenues, however, are associated with a cost of production and are therefore highly restricted.

TEIs in 2004 exceeded 30% in Australia, Chile, Korea, Mexico, New Zealand and the United States while it remained below 5% in Austria, Denmark, Greece and Sweden. However, it is remarkable that between 1995 and 2004, this proportion increased in 11 of the 13 countries for which data are available, the exceptions being France and Ireland. The trend toward greater *cost-sharing* is associated with pressures on public budgets for tertiary education. These are explained below.

**Figure 4.6. Relative proportion of private household expenditure on TEIs, 1995 and 2004**




*Countries are ranked in descending order of the relative proportion of private household expenditure on TEIs in 2004.*

*Note:* See note on Figure 4.5 for a definition of "Household expenditure". For Denmark and Iceland data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2004; 2007a).

### *Cost-sharing can take a number of forms*

Greater cost-sharing between the government (or taxpayers) and the student (and their families) can take a number of forms (adapted from Johnstone, 2006):

- The introduction of tuition fees where those did not exist;
- A rise in the level of tuition fees where those already existed;
- The creation of a special tuition-paying track for a proportion of students (as with the dual tuition fee track in existence in many Eastern European countries);

- The imposition of "user charges" (*e.g.* registration fees) for recovering the expenses of some previously heavily subsidised institutional services (such as meals and accommodation);
- The reduction of student grants or scholarships;
- An increase in the effective cost recovery on student loans (*e.g.* through a reduction of the subsidies on student loans);
- The limitation of capacity in the highly subsidised public sector together with the official encouragement of a tuition-dependant private tertiary education sector.

### *4.4.2 The case for cost-sharing*

There are several rationales for students and families to share the costs of tertiary education with taxpayers. The arguments more extensively used to make the case for cost-sharing are: *(i)* public money available for tertiary education is lacking in light of enrolment growth and competing priorities for public funds*; (ii)* those who benefit should contribute to the costs of tertiary education; *(iii)* public savings from individual contributions can be channelled to improve equity of access; and *(iv)* tuition fees introduce the virtues of price as a market mechanism. These are analysed below.

*Argument 1: There is a need for other-than-governmental revenue*

A compelling argument to increase cost-sharing is the absolute need for additional revenue for tertiary education. Expansion of tertiary education systems has led to critical budgetary pressures which are not easily resolved in light of competing priorities for the use of public funds. These pressures are essentially the consequence of three marked trends.

*(i) Greater demand for and expansion of tertiary education systems*

Demand for tertiary education has increased dramatically in recent decades. Greater proportions of a given age cohort are accessing tertiary education as secondary school completion rates rise and more adult students, formerly by-passed by the system, are gaining access. To a great extent, countries have been able to accommodate this greater demand and have significantly expanded their tertiary education systems (see Figure 2.3). However, accommodating the greater demand (*i.e.* not excluding those who are apt and willing to join the tertiary system) while maintaining expenditure per student constant is extremely costly if to be borne exclusively by the public budget.

In some countries demand pressures will lessen as a result of either enrolment rates which have stabilised at high-levels or a decline in the size of the age-cohorts who enter tertiary education (see Figure 2.8). However, in other countries, tertiary education is likely to continue expand. For example, in Mexico, the proportion of individuals in a given age-cohort who enter tertiary education is considerably lower than the OECD average (about 30% in 2005 compared to 54% across the OECD area, OECD, 2007a). In addition, the population aged 20-29 is expected to grow by 6% from 2005 to 2015 (Figure 2.8, Chapter 2).

*(ii) Decline in public revenue available to tertiary education*

Most countries are not in a position to raise more revenue to support tertiary education. On the one hand, countries might find it difficult to raise extra public taxpayer-based revenue. Many have reached levels of taxation which make further increases politically difficult. In some countries taxes on income and sales are technically difficult to collect and too easily avoidable and a tax compliance culture might not be well developed.

On the other hand, other priorities such as increasing spending on pensions, medical care, public infrastructure, or combating social exclusion are imposing growing pressure on education budgets. In addition, within education budgets, tertiary education has to compete for resources with school education and two other sectors likely to require more public resources in the future: early childhood education in light of the substantial externalities generated and the continuing training of the current workforce given the lengthening of careers in the context of faster technological change and the growing need for workers to upgrade their skills. In this context, tertiary education is likely not to be among the major claimants of scarce public resources. A limiting factor is the demonstrated ability of institutions of tertiary education, as opposed to most of the other claimants for public money, to raise revenue from selling their own services (Johnstone, 2006).

In addition, various countries, as those which adhered to the European Monetary Union, face constraints on government expenditures to respect criteria on deficits and debt. For instance, funding for tertiary education in Portugal is particularly constrained at present, and is likely to remain so in the coming years, because of steps being taken to reduce the national budget deficit below 3% pursuant to the Stability and Growth Pact of the European Union.

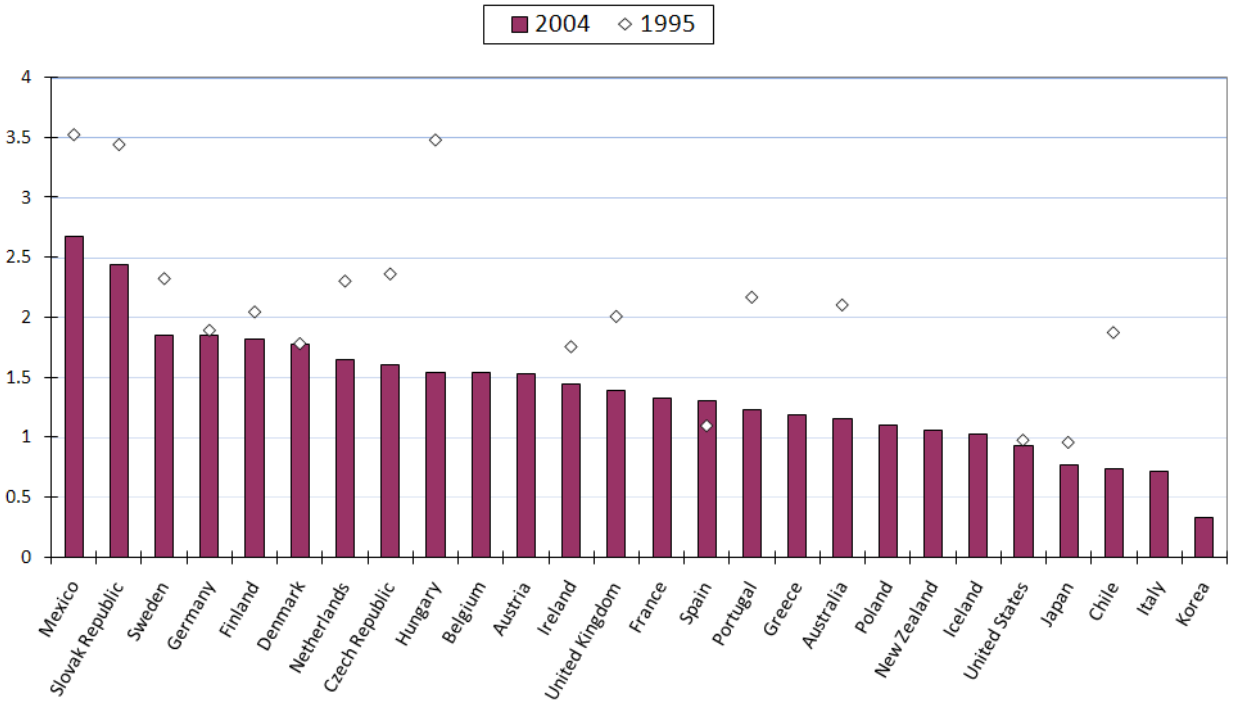
Figure 4.7 illustrates trends in public expenditure per student on tertiary institutions relative to public expenditure per student on pre-tertiary institutions for the period between 1995 and 2004. It clearly shows that tertiary education has lost in importance relative to lower levels of education: in 16 of the 17 countries for which data are available, the ratio of public expenditure per student on tertiary institutions to public expenditure per student on pre-tertiary institutions decreased, and very significantly so in the Australia, Chile, the Czech Republic, Hungary, Mexico, Portugal and the Slovak Republic. In 2004, tertiary education seemed to benefit from a generous allocation of public money relative to lower levels of education in Denmark, Finland, Germany, Mexico, the Slovak Republic and Sweden. This was in contrast to the case in Chile, Italy, Japan and Korea.[56]

There does not seem to be, however, a general trend across OECD countries of a decreasing importance of education in public budgets. Figure 4.8 displays public expenditure on education as a percentage of total public expenditure in 1995 and 2004. In fact, the proportion of public expenditure allocated to education increased in 15 of the 16 countries for which data are available (and remained constant in Austria). Substantial increases even occurred in Denmark, New Zealand and the Slovak Republic.

56 However, as a result of the growth in tertiary enrolments, public expenditure on tertiary education as a percentage of total public expenditure on education grew between 1995 and 2004 in 15 of the 19 countries for which data are available (OECD, 1998; OECD, 2007a).

## Figure 4.7. Annual public expenditure per student on TEIs relative to that on pre-tertiary institutions, 1995 and 2004

Ratio of annual public expenditure per student on TEIs to annual public expenditure per student on primary, secondary and post-secondary non-tertiary institutions, based on full-time equivalents.



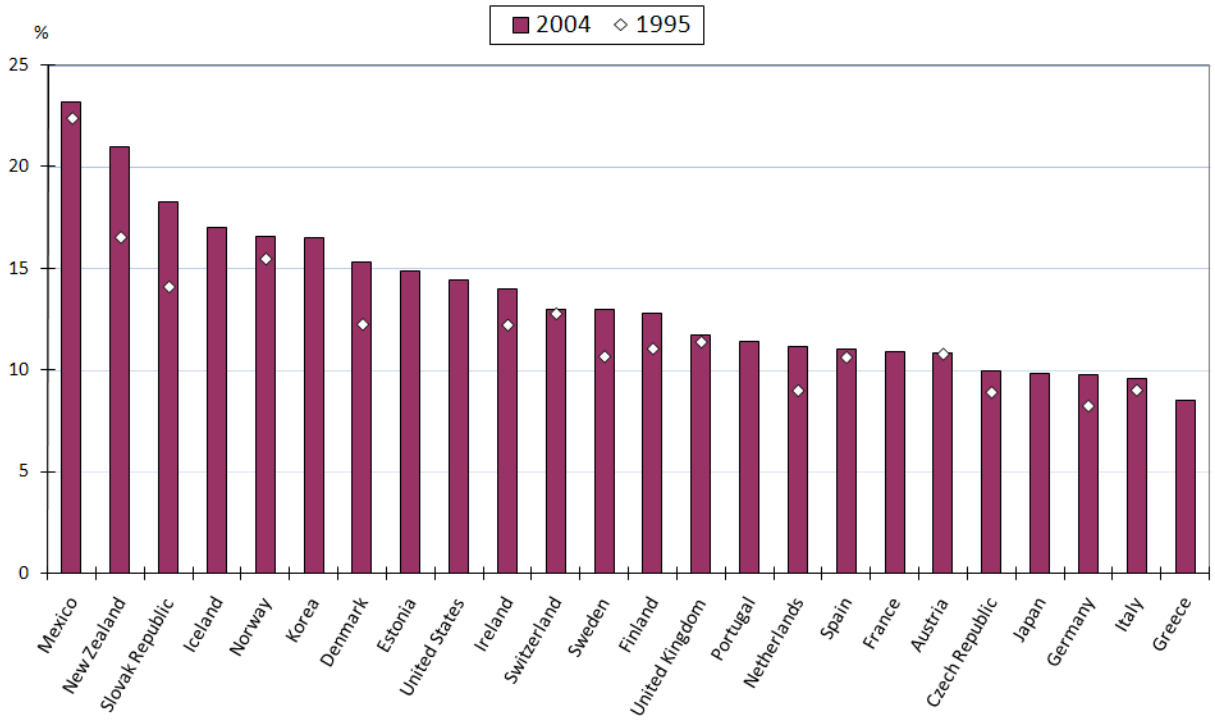

*Countries are ranked in descending order of the ratio of annual public expenditure per student on TEIs relative to that on pre-tertiary institutions in 2004.*

*Note:* Data refer to public institutions only for Hungary, Italy, Poland and Portugal. For Denmark, Iceland and Japan data concerning post-secondary non-tertiary education were included partly in data referring to TEIs and partly in data referring to pre-tertiary institutions. For the Slovak Republic data concerning post-secondary non-tertiary education and Tertiary-type B education were included in data for pre-tertiary institutions. The '2004' reference year for Chile is 2005.

*Source:* Derived from data in OECD (2007a).

**Figure 4.8. Public expenditure on education as a percentage of total public expenditure, 1995 and 2004**

Direct public expenditure on educational institutions plus public subsidies to households (which include subsidies for living costs) and other private entities as a percentage of total public expenditure.




*Countries are ranked in descending order of the public expenditure on education as a percentage of total public expenditure in 2004.*

*Note:* Public expenditure presented in this Figure includes public subsidies to households for living costs, which are not spent on educational institutions. For Denmark, Iceland and Japan data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education.

*Source:* OECD (2007a).

### *(iii) Increasing costs per student as tertiary education is intrinsically labour intensive*

Some analysts observe that, like other labour intensive industries, costs per student in tertiary education tend to rise faster than unit costs in the general economy. This happens because the application of technology tends to increase the quality of the product or the comfort and convenience of the producers instead of lowering the cost of production. It is argued that this is also the result of the traditional resistance on the part of the academy to changes that would increase productivity by substituting capital for labour. One consequence is that both costs and prices (*i.e.* tuition fees) of tertiary education tend to outpace the rate of inflation (Johnstone, 2004 and 2006). However, the increase in productivity elsewhere in the economy gives rise to corresponding increases in purchasing power so increasing costs per student cannot be used as an argument for additional public contributions to tertiary education (Jacobs and van der Ploeg, 2005).

Public funding limitations have consequences for tertiary education

Public funding limitations can have a number of consequences for tertiary education felt by both institutions and individuals (Johnston, 2006):

- Where the number of places available in tertiary education is to be limited by available funds, the consequence is that some qualified individuals will be denied access. Those excluded are typically the less academically prepared who tend to disproportionately come from weaker secondary schools and disadvantaged families (*e.g.* lower income, rural families). Given that individuals from more affluent families will have alternatives (in the fee-paying private sector or tertiary education abroad) the students most likely to be hurt by enrolment rationing are those from the more disadvantaged families.
- Where student demand determines the size of the system the funding restrictions will mainly impact on the quality of educational services, through lower expenditure per student. This can be reflected in increasingly inadequate numbers and/or quality of teachers (*e.g.* loss, lower morale, multiple employment of faculty), increasingly ineffective equipment (*e.g.* out of date computers, laboratory equipment, library materials) and inadequate facilities. This might have occurred in countries where expenditure per student declined in recent years (see Figures 4.3 and 4.4).
- Where student financial assistance is to be limited by available funds, the consequence is that the effects will be felt predominantly by middle and lower income students. This might be reflected in the decision not to enrol in tertiary education, to enrol in a more affordable institution, or to seek parallel employment possibly to the detriment of studies.

*Argument 2: Those who benefit should contribute to the costs of tertiary education*

Tertiary education is never *free*. In countries where private contributions to tertiary education are low, tertiary education is paid mostly by taxpayers whether or not they benefit from tertiary education. It is often claimed that tertiary education is a basic right. However, as explained by Barr (2004), it does not follow that tertiary education should be free of charge – in fact, food is a basic human right but is generally not provided for free. The equity objective is not free tertiary education but a system in which no bright person is denied a place because he or she comes from a disadvantaged background (Barr, 2004).

It is also a fact that tertiary education brings private benefits to the individual. As well documented in Chapter 2, the extensive empirical literature on the returns to education shows that there are substantial private rates of return to tertiary education. These are reflected by higher lifetime earnings, greater labour force participation, lower likelihood of being unemployed and less propensity to be among the long-term unemployed (see Chapter 9). In addition to the labour market advantages, there is also some evidence of private non-monetary benefits such as improved lifestyle, better health, and more civic engagement. However, it should be noted that there is considerable variation of rates of return to tertiary education across countries (see Figure 2.2 in Chapter 2).

It is also the case that often some benefit more than others from given funding arrangements. Take the case of combined low tuition fees and minimal financial assistance. The degrees of mainly better-off people are paid for by people who on average are less well off. This is so because a disproportionate number of beneficiaries of tertiary

education are from more affluent families while taxes are collected from all families. In this instance the public subsidy required by low tuition bears a resemblance to a transfer payment from public resources to more affluent families. In addition, while some graduates perceive a higher private financial benefit from a tertiary degree, all students are subsidised at similar levels (given that both fees and scholarships are low). Overall the system seems to favour *high earners* graduates and penalises *low earners* graduates and non-tertiary-graduates. The equity argument for increased cost-sharing is hence associated with the fact that tertiary education subsidies tend to be regressive. As explained by Johnstone (2004), this argument is more compelling when the following factors are present: (1) tertiary education is accessed by relatively few; (2) those "relative few" are predominantly from more affluent families; (3) the taxes that the government uses in support of tertiary education come from relatively proportional or even regressive taxes on sales or businesses, or from the printing of money (which also falls heavily on the middle and lower classes through the resulting inflation and loss of purchasing power of the currency); and (4) the provision of "need-based", or "means-tested" grants and generally available loans is limited.

It is sometimes argued that graduates from tertiary education, namely those with higher earnings, in countries where progressive tax systems are in place also contribute proportionately more to the public funding of tertiary education. While there is some validity to this, personal income taxes represented only about 25% of government tax revenue in OECD countries in 2004, suggesting that the increase in tax revenues from graduates represents only a small proportion of tertiary education subsidies (OECD, 2006).[57] In addition, income taxes are paid by many more non-graduates than graduates: 74% of the population aged 25-64 in OECD countries does not have a tertiary degree. This argument also overlooks the discrimination of high-income earners who did not graduate from tertiary education (and therefore did not receive the associated subsidies) and still pay higher net taxes to support tertiary education (Barr, 2004, Jacobs and van der Ploeg, 2005).

*Argument 3: Public savings from individual contributions can be channelled to improve equity of access*

In countries with no or low tuition fees, a proportion of the beneficiaries of tertiary education would pay at least part of the costs of instruction if they had to. Tuition fees would make little difference in enrolment decisions of students from more affluent families. At the same time, in countries with weak systems of financial assistance many disadvantaged students find it difficult to access tertiary education even if no tuition fees are in place. Hence an argument for increased cost-sharing is to raise tertiary education revenues through the collection of tuition fees from those students who can pay and direct the associated public savings to the strengthening of the student financial assistance system. In theory, part of the tuition revenues collected can fund means-tested grants and loan subsidies which can enhance accessibility by the more disadvantaged groups.

*Argument 4: Tuition fees as a market mechanism might improve efficiency*

Cost-sharing can also be supported by the presumption that greater efficiency and responsiveness of producers and consumers will result from using tuition fees as a market

57 Adding taxes on corporate income to personal income taxes does not change the argument, since both taxes represented only about 34% of government tax revenue in 2004 (OECD, 2006).

mechanism. It is argued that with some cost-sharing there are greater incentives on the part of the student to study hard and graduate "on time". Similarly, institutions of tertiary education, having to compete for students and to bear consequences for inefficiency will be more likely to provide quality education (Johnstone, 2004).

### *4.4.3 Practical issues with and arguments against cost-sharing*

Shifting tertiary education costs from taxpayers to students and families might, in practice, prove difficult to realise as a result of both practical implementation issues and resistance of some agents to cost-sharing. These aspects are grouped below according to the following interrelated categories: cultural, technical, strategic and ideological (based partly on Johnstone, 2004 and 2006).

A first dimension, more of a cultural nature, refers to different practices and traditions across countries. These include:

- *In some countries, a belief is ingrained in society that families and/or students should not have to pay for the instructional costs of tertiary education.* For example, in Nordic European countries the existing high levels of taxation are widely accepted on the presumption that a wide range of social services, including free tertiary education, will be provided. Such high levels of taxation, which can accommodate large public subsidies for tertiary education, are essentially a societal/political decision. However, in this respect, the Nordic European countries are more the exception than the rule – most countries are not in a position to substantially raise their tax revenues.
- *Countries have different traditions in assuming students to be dependent or independent of their parents (or families) for funding purposes.* For instance, in many countries, families expect to pay for their children's living costs (e.g. by having them live at home), although not the instructional costs. By contrast, families in Nordic European countries expect their children to be independent and bear the costs of living. It happens that, in order to expand cost-sharing, assuming that additional private costs are to be borne by independent students is quite different from assuming that families will assist students with those extra costs. The former approach is likely to require more resources, in particular: (i) more part-time employment opportunities for students, whose availability varies greatly across countries; and (ii) universal student aid schemes with entitlements to cover living costs.
- *There is little tradition, in most countries, of philanthropic giving to tertiary education, either directly to institutions or for student scholarships funds.* Practices such as the acceptance of an obligation to give to the institution one has graduated from, the well maintained records on the names and addresses of alumni, and the favourable tax treatment of the donations are characteristic only of a few countries such as the United States.

A second dimension includes a number of technical aspects which make the realisation of cost-sharing more challenging. This is essentially related to two aspects. First, the split of the cost (*i.e.* the share that each the government and the student/families *should* pay) is difficult to establish in any precise way because the magnitude of tertiary educational externalities is very difficult to measure. On the other hand, cost-sharing, to be compatible with access and equality of opportunities, must be accompanied by measures which remove financial barriers to enter tertiary education at the time of the

enrolment decision, especially for the more disadvantaged groups. This requires robust student financial aid systems typically formed of need-based grants and loan schemes and possibly other programmes to compensate for unequal educational opportunities at the secondary level. However, the implementation of student assistance programmes is hindered by aspects such as:

- *Difficulties in determining the extent of need of students (or families)*. This relates to the lack of tradition, in some countries, to truthfully reveal incomes and assets in response to tax rules or documentation requests to obtain financial assistance, combined with difficulties in verifying income. In many countries the "ability to pay" can be only approximated by such indicators as occupation, type of housing, and other proxies of relative affluence or poverty.
- *Problems of recovering costs from graduates in the form of loan repayments*. This is related to the inexistence in many countries of efficient, highly inclusive, and politically accepted systems of income taxation, a culture of debt repayment compliance, and ways to track borrowers after their graduation.
- *The need for a substantial initial investment to launch a loan system based on a public fund* (only recovered when students start their repayments), not easily supported by the public budget, especially for those countries facing public deficits.
- *The absence or limitations of private capital markets for student loans to complement the limited amounts of student lending available from public schemes.* This relates mostly with the (lack of) ability to provide repayment guarantees to private lenders, which are more acute when the government is not in a position to be the guarantor for the student.
- In a number of countries, *the absence of a sufficiently affluent middle class that can afford tuition fees* would require substantial investments in financial assistance to students (and families), often not readily available from the public budget.

A third dimension includes arguments of a strategic nature. It broadly relates to the assumption that the political acceptance of cost-sharing disadvantages tertiary education relative to competing claims on public money. The two main arguments are as follows:

- Assuming that tertiary education has greater ability to supplement its public revenue with private revenues (not necessarily limited to cost-sharing) places it at a great disadvantage relative to other social areas (such as basic education, health, or welfare) and makes the reduction of dedicated public funds politically easier.
- While a policy of cost-sharing combined with student financial aid might target resources better, politicians might give lower priority to the development of the student aid system than to the expansion of cost-sharing (*e.g.* higher tuition).

A fourth dimension offers more ideological arguments to resist cost-sharing. Among the most common are:

- Tertiary education is another social entitlement, a view based on the assumption that society is the major beneficiary of tertiary education and that the importance of the private benefits provided by tertiary education is relatively limited.

- The view that taxes can be raised, both substantially and progressively, if there is political will, denying the view that public revenue is limited.
- The rejection of the presence of commercialisation and market forces in tertiary education in opposition to efficiency and market responsiveness as rationales for greater cost-sharing.

### *4.4.4 Impact of cost-sharing*

This Section reviews the evidence on the impact of cost-sharing on students' tertiary education participation, completion and drop-out rates, and equity of access. It covers the impact of a range of aspects associated with cost-sharing: net price of tertiary education, tuition fees, level and composition of student support packages.[58,59]

*Participation of students in tertiary education involves three separate types of financial constraints*

Usher (2005, 2006) notes that there are three separate and sequential types of financial constraints that must be satisfied if a student is to attend tertiary education:

- The assessment by the individual of whether or not the benefits of tertiary education outweigh the total price or cost of tertiary education (which can be called the "price constraint" and related to the returns to tertiary education reviewed in Chapter 2).
- Whether the individual can obtain sufficient funds to cover the immediate cost of obtaining tertiary education (which can be called the "liquidity constraint", addressed in Section 4.3.1).
- Whether the individual is reluctant to incur debt in order to obtain an education (which can be called the "debt aversion" constraint). This constraint holds in those cases the liquidity constraint can only be met through loans, which is the case in many tertiary education systems.

*Lower levels of tuition do not necessarily lead to "better" access to tertiary education*

As concluded by Usher (2006), there is no evidence to suggest that the absolute level of tuition fees in a particular educational jurisdiction in a particular year has any bearing at all on national levels of enrolment, or on providing more "equal" access to education. In his review of the literature, Usher (2006) notes that Swail and Heller (2004), Usher and Cervenan (2005), Junor and Usher (2004) and Usher (2004) have all shown that there is no evidence that lower levels of tuition fees necessarily lead to "better" access to tertiary education, both in the sense of allowing more people to attend and providing better access to people from disadvantaged backgrounds. There does not seem to be any correlation between low or no tuition fees and participation rates.

58 Section 4.10.5 complements this Section by reviewing the impact of approaches to student support on aspects other than participation and completion.

59 ESU (2008) includes perceptions of European students on cost-sharing.

*There is evidence that students are responsive to net price variation*

There is a large research literature on the price responsiveness of tertiary students, most of which is based on the experience of the United States. Studies typically look at the relationship between enrolment in tertiary education and either tuition fees alone, student financial aid alone, or net price of tertiary education for students of different income groups, ethnical background and attending different types of institutions. This research literature indicates a consistent negative relationship between net price and enrolment (see the meta-analyses of Manski and Wise (1983), Leslie and Brinkman (1987) and Heller (1997, 1999). For example, Leslie and Brinkman (1987) conclude that, all other things being equal, for every US$ 100 increase in tertiary education costs one would expect the enrolment rate to drop by about 0.7%. Interestingly, the little evidence available from Europe suggests that students are less sensitive to tuition fees changes (which might result from their lower level compared to the United States). For example, evidence for the Netherlands indicates that students hardly respond to tuition fees changes (Vossensteyn, 2002; Canton and de Jong, 2005).

*There is evidence that students from more disadvantaged backgrounds are more sensitive to net price changes*

One of the most solid empirical findings of the research literature on tertiary education participation is that net price reductions (or grants) are much more effective among low-income students than among middle or high income students (Usher, 2006). The literature, dominated by United States-based studies, is consistent in stressing that the enrolment responsiveness of low-income students to changes in net price is greater than that of other students (Manski and Wise, 1983; Leslie and Brinkman, 1988; McPherson and Schapiro, 1991; Heller, 1997; McPherson and Schapiro, 2006; Kane, 2006). Leslie and Brinkman (1988) found that between 20 and 40% of total enrolments of low-income individuals was due to grants (as reported by Usher, 2006). In his survey of the literature on student price response in higher education, Heller (1997) also concludes that, in the United States, students in community colleges (two-year courses) are more sensitive to tuition and financial aid changes than those at four-year colleges and universities.

On the other hand, the research literature also seems to indicate that there is little evidence that increases in net price inhibit the enrolment of more affluent students (Leslie and Brinkman, 1988; McPherson and Schapiro, 1991; Usher, 2006).

*There is some evidence that financial support has an impact on tertiary education participation*

There is some evidence that financial support has an impact on tertiary education participation. Heller (1999) indicates that grant increases can fully offset the negative effects of tuition fees on enrolment. Similarly, Seftor and Turner (2002) find that the Pell Grant programme[60] in the United States has had sizable effects on the tertiary enrolment rates of potential students in their 20s and 30s. In an analysis of demand for higher education in the Netherlands, Canton and de Jong (2005) also find that financial support (the sum of loans and grants) is significant in the enrolment decision. Dynarski (2003)

60 The Pell Grant programme is the largest means-tested federal financial assistance available to tertiary education students across the United States. It gives support to over three million students at more than 6 000 institutions (Singell and Stone, 2007).

finds that the elimination of the Social Security student benefit programme in the United States (involving monthly payments to the 18- to 22-year-old children of deceased, disabled, or retired Social Security beneficiaries while enrolled full time in tertiary education) reduced tertiary education attendance probabilities by more than a third. These estimates suggest that an offer of $1 000 in grant aid increases the probability of attending tertiary education by about 3.6%.

*Students are more sensitive to changes in grants than to changes in loans or in the availability of work opportunities during studies*

There is some evidence that enrolment in tertiary education is more sensitive to changes in grants than to changes in loans or work opportunities during studies (see survey by Heller, 1997). Oberg (1997) provides evidence of the preference of students for grants over loans in their decisions of participation in tertiary education in Germany. He investigated the period 1983-1991 when grants were first eliminated and then re-introduced. This occurred through a shift from grants to loans and vice-versa while total assistance amounts remained relatively constant over the period under analysis. Oberg's results suggest an association between grants and participation rates: when one increased or decreased, so did the other. As Usher (2006) points out, "while the effect was slightly more pronounced for youth from working-class back-grounds, and slightly less prominent for the children of self-employed workers, the effect was remarkably similar across all socio-economic groups – a result which has not been seen in studies in other countries."

*Student loans can improve the accessibility of tertiary education*

Usher (2006), analysing the summary of the literature on tertiary education access in the United States by St John (2003) concludes that loans are useful for persistence among middle and upper-income students, but ineffective among lower-income students, while the converse is true for grants. Canton and Blom (2004) illustrate that student loans can improve accessibility to tertiary education. They examine a student loan program (SOFES) implemented at private universities in Mexico. Results indicate that this financial support has a strong positive effect on university enrolment. Given completion of upper secondary education, the probability of entering tertiary education rises by 24%.

*Expanding cost-sharing with a parallel development of the student support system does not have a negative impact on the participation rates of disadvantaged students*

The well-researched Australian case suggests that the simultaneous introduction of tuition fees and the development of a comprehensive student support system does not negatively affect rates of participation in tertiary education, including those of disadvantaged students. Since 1989, Australian higher education students have been required to contribute to the cost of their education through a deferred payment scheme, the *Higher Education Contribution Scheme* (HECS). This coincided with the institution of the world's first broadly based income contingent loan scheme for higher education. A robust expansion followed the introduction of HECS: between 1989 and 2002, enrolments in Australian higher education increased by 80% (DEST, 2003). Chapman (1997) summarises a number of studies which typically show that HECS has not been a dominant factor influencing individual decision-making, either in the aggregate or for students from disadvantaged backgrounds. Andrews (1999), in assessing the factors affecting university participation by low socio-economic status (SES) students, concludes

that HECS is a very minor influence, if a factor at all, for the low participation by low SES groups. The main reasons found in this report and confirmed by international studies (*e.g.* Canton and Vossensteyn, 2001) appear to be the attitudes and values of low SES groups towards higher education.

However, as could be expected by the evidence provided above on the enrolment impact of net price, tuition increases not accompanied with the improvement of financial aid schemes can hurt participation rates. In his review of the effects of tuition and state financial aid on public tertiary enrolment in the United States, Heller (1999) found that that "tuition increases that are not offset by concomitant increases in financial aid appear to have the effect of reducing access."

*There is strong evidence that financial aid affects study persistence in tertiary education, particularly for more disadvantaged groups*

There is fairly strong evidence that grants and net price have an effect on persistence in tertiary education, particularly for more disadvantaged groups (Usher, 2006). For instance, Bettinger (2004) examines the effect of Pell grants on student persistence in the United States, using data from Ohio institutions, and finds that Pell grants reduce drop-out behaviour. Dynarski (2005) exploits the introduction of two large state financial aid programmes in the United States to estimate the impact of aid on completed tertiary education. She finds that the aid programmes increase the share of the population that completes a tertiary education degree.

Again in the case of the United States, St. John and Starkey (1995) show that among lower-income students, grants are considerably more effective than loans at improving persistence. Another American study (United States Government Accounting Office, 1994) notes that a shift in the loan-grant mix could improve retention among low-income students. This study also found that this effect was limited to the first two years of study, after which time students became insensitive to changes in the loan-grant mix (as reported by Usher, 2006). In turn, McElroy (2004) suggests that the size of the total assistance package is a more important factor in persistence than the loan-grant balance within that package. Similarly Alon (2007), assessing the effectiveness of financial aid in promoting the persistence of minority students admitted to the most selective universities in the United States to complete their tertiary education, finds that aid amounts exert a positive influence on graduation, conditional on eligibility for aid.

Belot *et al.* (2004) examined the impact of a reform in the student support scheme of the Netherlands on student performance. The 1996-reform reduced the duration of public support by one year and limited it to the nominal duration of the study programme. They find that performance improved after the reform. The probability of dropping out after 5 months fell by 2%, and university students completed 5% more courses.

*More disadvantaged individuals tend to underestimate the net benefits of tertiary education*

Usher (2006) draws attention to a particularly relevant policy issue. As he points out, the fact that research indicates that grants do in fact make a difference to access for low-income students is puzzling in light that human capital theory predicts that readily available generous loans would make grants irrelevant in the decision of whether or not to participate in tertiary education. In reconciling the grants research with human capital theory, he reviews evidence which indicate that low-income students:

- have rational reasons to expect lower-than-average returns;
- systematically misestimate costs and benefits of tertiary education; and
- have systematically higher personal discount rates than youth from wealthier backgrounds.

The author also reveals that low-income students do not appear to be systematically more debt averse than other students. Despite this, he concludes "that there are systematic differences between low-income youth and their wealthier counterparts. All other things being equal, these differences make low-income youth *subjectively* view education as a less beneficial investment than what might appear *objectively* to be the case." This has important policy implications. As put by Usher (2006) "Accordingly, even if they are not credit-constrained, low-income students will be less likely to attend post-secondary education unless they are given some kind of subsidy which would increase their subjective rate of return. These subsidies – grants, in other words – are therefore much likelier to have an effect on low-income students than on higher income students, who, on average, already view education as a good investment."

## 4.5 Overall country approaches to funding tertiary education

*Countries differ in their approach to funding tertiary education*

Table 4.1 provides a taxonomy of approaches to funding tertiary education in participating countries. Countries are grouped according to two dimensions. The first dimension is the extent of cost-sharing, that is the level of contribution that is requested from the student and/or his or her family. A further distinction is that, in a single country, the extent of cost-sharing can also be uniform or non-uniform across students. The second dimension concerns the basis for student support. Two types of systems are distinguished: *(i)* universal support systems when substantial resources devoted to student financial aid are available to the entire student population and, in most cases, in such a way that students are considered as financially independent of their parents; and *(ii)* family-based systems where public student support systems are fairly underdeveloped, not available to the entire student population, and where it is expected that the family contributes to the costs of tertiary education.[61]

Five groups of countries emerge. In a first group of countries – Australia, Chile, the Netherlands, New Zealand and the United Kingdom (except Scotland) – the costs of tertiary education are shared between the users and the State: part of the funding is provided by the government to both institutions and students, and part by students and their families. Student support systems are well developed and mostly accommodate the needs of the entire student population. In these countries cost-sharing is a well-accepted principle and participation levels in tertiary education are above the OECD average.

61 Most of the information used to assign countries to particular cells in Table 4.1 is provided later in the Chapter.

**Table 4.1. Approaches to funding tertiary education, 2007**

| | | BASIS for STUDENT SUPPORT | |
|---|---|---|---|
| | | Universal support systems | Family-based funding |
| EXTENT of COST-SHARING | Important and uniform across students | Australia, Chile, the Netherlands, New Zealand, the United Kingdom | China, Japan, Korea |
| | Non-uniform across students | | Croatia, Estonia, Poland, Russian Federation |
| | Minor and uniform across students | Finland, Iceland, Norway, Sweden | Belgium, the Czech Republic, France, Greece, Mexico, Portugal, Spain, Switzerland |

In a second group of countries – China, Japan and Korea – while the extent of cost-sharing is important and broadly uniform across students, student support systems are somewhat underdeveloped. This leads to a considerable financial burden on students and families. Given these circumstances, the levels of participation are remarkably high (in particular in Japan and Korea). In Japan and Korea, this reflects the pattern of growth since the early 1980s when tertiary education has expanded by allowing new institutions to open and parents (and other private sources, like churches and corporations) to fund the enormous increase in enrolments without any substantial increase in public funding. This pattern also reflects the enormous commitment of parents to the education of their children, veneration of formal schooling and pressures to increase schooling as the main route to achieve social status.

In a third group of countries – Croatia, Estonia, Poland and the Russian Federation – the notable feature is that cost sharing is achieved by arrangements whereby some students have their studies fully subsidised by the public budget and the remainder pay the full costs of their tuition. In other words, the burden of private contributions is borne by part of the student population rather than shared by all. In these systems, public student support systems remain underdeveloped.

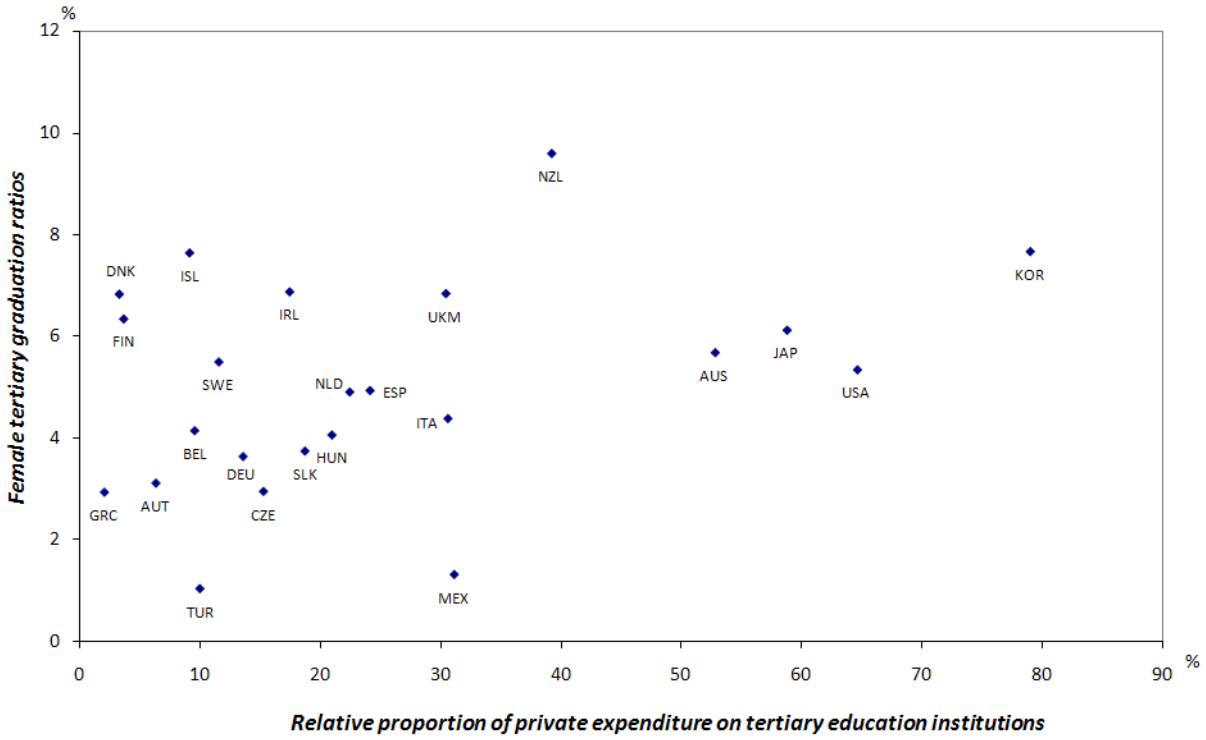
In a fourth group of countries – Finland, Iceland, Norway and Sweden – no tuition fees are charged (except in publicly-subsidised private institutions in Iceland, and some private institutions in Norway), which is combined with well resourced student support systems to assist students with their living costs. The way tertiary education is resourced also express a particular vision of society. Public funding of tertiary education is seen as the operational expression of the weight attached to such deeply-rooted social values as equality of opportunity and social equity which stand as one of the identifying traits of European Nordic countries. The notion that government should provide its people with tertiary education ‘free’ to the user is a prime feature in the educational culture of these countries. In its current mode, funding both institutions and students resides on the

principle, that access to tertiary education is construed as a 'right' rather than a 'benefit'.[62]

Finally, in the fifth group of countries – the Czech Republic, Belgium, France, Greece, Mexico, Portugal, Spain and Switzerland – the extent of cost-sharing is minor and student support systems can be considered incipient. There is a high level of dependence on public resources to fund tertiary education in these countries and participation levels are typically below the OECD average.

*There is some association between the extent of cost-sharing and participation levels*

**Figure 4.9. New tertiary female graduates as a share of the 20-29 female population and relative proportion of private expenditure on TEIs, 2004**




*Note:* Female graduates include individuals over 29. Graduation ratios are computed using the harmonised number of graduates, *i.e.* new graduates recorded by highest diploma achieved divided by the population in the age group 20-29. See Oliveira Martins *et al.* (2007) for further details. Female graduation ratios were used given the unavailability of ratios aggregating females and males. The plot provides similar indications if male tertiary graduation ratios are used instead of female tertiary graduation ratios. For Denmark, Iceland and Japan data for the relative proportion of private expenditure include part of post-secondary non-tertiary education. For the Slovak Republic such data do not include Tertiary-type B education.

*Source:* OECD (2007a) for the relative proportion of private expenditure on TEIs; OECD computations in Oliveira Martins *et al.* (2007) for female graduates as a share of the 20-29 female population.

62 Obviously the exercise of that 'right' does not exclude, far from it, benefits that may accrue both to the individual as well as to society in terms of the enhanced skills and knowledge the individual has gained from the experience of tertiary education. It should also be noted that such an approach to funding is also not immune to equity concerns.

Figure 4.9 plots, for 2004, participation levels in tertiary education (using as a proxy new tertiary female graduates as a share of the 20-29 female population) against the relative proportion of private expenditure on TEIs. It intends to infer a possible association between the extent of cost-sharing and the 'size' of the system (in terms of the flow of graduates it generates). Interestingly, the figure seems to suggest two groups of countries that are able to sustain greater participation levels in tertiary education: *(i)* those which utilise more of a mix of public and private resources (Australia, Japan, Korea, New Zealand, the United Kingdom and the United States); and *(ii)* those which rely on high levels of taxation to support mostly publicly-funded tertiary education systems (Denmark, Finland, Iceland and Sweden). Countries which face more constraints in providing public funds to tertiary education and rely little on private resources exhibit lower levels of participation (*e.g.* Austria, the Czech Republic, Greece, Turkey).

*Clarifying what government wants from its funding is likely to be of great consequence*

The question of what the government wants for its funding support is fundamental to the whole endeavour, yet in many countries there is no clear reasoning behind any particular level of funding other than the most general social, economic, and tax equity rationales. Often too little attention is paid to using funding processes to address concerns about the relevance of tertiary education, including meeting the emerging societal and economic needs.

Salmi and Hauptman (2006) identify three goals that countries around the world seek to achieve through the funding of tertiary education:

- Increasing access to, and equity in, tertiary education as measured by:
  - increasing overall participation rates for students of traditional enrolment age who enter a TEI in the year following their graduation from secondary school;
  - expanding the number and range of lifelong learning opportunities particularly for older students and other non-traditional groups of students including distance learners;
  - reducing disparities in participation rates between students from low and high income family backgrounds as well as other important dimensions of equity such as gender and racial/ethnic group;
  - increasing private sector investment and activity in the provision and support of tertiary education activities.
- Increasing the external efficiency of tertiary education systems by improving both:
  - the quality of the education provided; and
  - the relevance of programmes and of graduates in meeting societal and labour market needs.
- Improving the internal efficiency and sustainability of tertiary education systems by:
  - reducing or moderating the growth over time of costs per student and improving how resources are allocated, both among institutions and within institutions; and

- decreasing repetition and raising the rates of degree completion.

*Some countries establish an explicit contract with individual institutions*

In a number of countries the government establishes a contract with individual institutions. For instance, in Iceland, contracts are passed with both public and private universities with similar funding rates. While not being overly prescriptive, the contracts stipulate:

- How the total amount of public funding is to be arrived at;
- The institution's obligations in terms of quality, joint projects and international presence;
- The distribution between enrolments on campus and in distance teaching mode, and between under-graduate and post graduate levels of study; and
- The obligations incumbent upon the institution to report back and to account to public authorities.

Certain items – for instance, the funding per student and per discipline, the number of places to be funded – are determined each year independently of the contractual procedure.

The provision of funding to institutions under an explicit contract means that governmental expectations are clear. Contractualisation of the instruction component has the potential to bring a number of benefits in its train. It lends transparency to the funding system. If valid for a given period (say three years) it can provide a measure of certainty and stability, which is important for institutional planning. By the same token, it also might permit a considerable degree of flexibility if not excessively prescriptive. In this case, while the contract would lay out broad parameters for funding, the obligation to carry out planning in detail would fall to the institution. Institutional planning would also take place within the limitations imposed by government expenditure plans.

## 4.6 Tuition fees

*Students pay tuition fees in the large majority of countries*

Domestic students pay tuition fees in the large majority of countries both in public and publicly-subsidised private TEIs (see Table 4.2). Three groups of countries can be distinguished. In the largest group, the entire student population is required to contribute to the costs of tertiary education by paying tuition fees,[63] although the degrees to which these fees cover the costs of instruction vary considerably across countries. In this group of countries, fees can cover a substantial proportion of instructional costs (Australia, Chile, Japan and Korea), a fair proportion (China, the Netherlands, New Zealand, and the United Kingdom with the exception of Scotland), or a modest proportion (Belgium, in tertiary professional schools in the Czech Republic, France, in most institutions in Mexico, Portugal and in the university sector in Spain) (see Figure 4.10).

In a second group of countries (Croatia, Estonia, Poland and the Russian Federation), a dual fee system determines that part of the student population is not required to pay

63 This refers to gross tuition fees. Some of these students might be granted tuition allowances or waivers.

tuition fees. Indeed, some students are granted one of a limited number of fully publicly-subsidised places, while the remaining students are required to pay tuition fees, typically at the level of the cost of provision. The group of fee-paying students is typically large and, in most of these countries, close to 50% of the student population.

Finally, in the third group of countries (the university sector in the Czech Republic, Finland, Greece, Iceland, Norway, the non-university sector in Spain, Sweden, and Scotland), students are exempt from the payment of fees in public institutions.[64] As opposed to Finland and Sweden, students in publicly-subsidised tertiary institutions are required to pay tuition fees in Iceland and do so in part of these institutions in Norway.

The *dual track tuition fee* structure, which exists in a number of Central and Eastern European countries such as Croatia, Estonia, Poland, and the Russian Federation since the early 1990s, deserves special attention.[65] It has operated as something of a safety valve in terms of balancing public expenditure and societal expectations. It has enabled tertiary education systems to meet a level of demand for tertiary education far in excess of the number of places fully publicly funded without overburdening the public budget. Access to the non-fee-paying places is based in general on academic 'merit': entry criteria (typically secondary school leaving examinations) establish a ranking of candidates applying to each institution, and the best ranked students access the available non-fee-paying places, while the places available on a fee-paying basis are given to those students who may be only marginally lower in the same ranking.[66] The proportion of fee-paying students attending public institutions was 43% in Poland (in 2003-04) and 42% in the Russian Federation (in 2005-06). In Estonia, the proportion of fee-paying students in the tertiary system grew from 7.4% in 1994 to 54% in 2006[67] while in Croatia about 44% of students were fully supported by the State in 2003.

This practice implies that students in public institutions are being subsidised on a 'merit' basis. While it is legitimate to make access to places in the public system dependent on academic merit, it is much more debatable whether public subsidies should be distributed to individual students on the basis of 'merit'. Societal benefits generated by graduates of the same programme are likely to be comparable (which would, in itself, justify similar public subsidies – it is hard to argue that there are no externalities accruing from the education of the students who receive no public support for their tuition). In addition, it is known that academic 'merit' at the point of entry into tertiary education reflects prior educational opportunities, which are closely associated with the socioeconomic background of the student (see Chapter 6).

64 In Greece, students pay fees in specific postgraduate programmes and at the Hellenic Open University; in Scotland students pay fees in postgraduate programmes, when studying part-time or for a second degree.

65 In Australia, a publicly-funded TEI may also admit students on a full-fee basis in each course. However, the allowed proportion of full-fee students in courses receiving public funds is very small – in 2005, revenues from fee-paying non-overseas undergraduate students made only 0.7% of revenues of publicly-funded higher education providers.

66 Dual track tuition policies are typically implemented with restrictions. For instance, in Poland, there are regulations which require fee-paying students to receive tuition and support which is substantively identical to that offered to non-fee-paying students; to be taught in entirely separate classes from non-fee-paying students; and that the proportion of fee-paying students cannot exceed 50% of the student body within an institution.

67 For the latter year, to put the figure into perspective, the fee-paying private sector accounted for about 20% of enrolments.

Table 4.2 **Tuition fees in publicly-funded tertiary education institutions, 2007**

| | Do students pay tuition fees… | | When tuition fees are charged, are they differentiated… | | Who determines the level of tuition fees… | | Which government restrictions apply to the setting of tuition fees by… | |
|---|---|---|---|---|---|---|---|---|
| | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … public TEIs? | …publicly-subsidised private TEIs? |
| Australia[1] | **Yes, in all cases** (except for postgraduate research programmes)[2] | **Yes, in all cases**[3] | **Yes, differentiation is imposed by national framework according to**: Field of study or programme attended (set by broad discipline); whether the study place is publicly subsidised or not | **Yes, differentiation is imposed by national framework according to:** Field of study or programme attended (set by broad discipline); whether the study place is publicly subsidised or not | **TEIs, in all cases** | **TEIs, in all cases** | **Upper limit** (for publicly subsidised places); **Lower limit** (for unsubsidised places) | **Upper limit** (for publicly subsidised places); **Lower limit** (for unsubsidised places) |
| Belgium (Flemish Community) | **Yes, in all cases** | **Yes, in all cases** | **Yes, differentiation is imposed by national framework according to:** Student status (*m*) **At the discretion of the TEI** (*m*)**:** by programme attended (for post-initial study programmes)[4] | **Yes, differentiation is imposed by national framework according to:** Student status (*m*) **At the discretion of the TEI** (*m*)**:** by programme attended (for post-initial study programmes)[4] | **TEIs, in all cases** | **TEIs, in all cases** | **Within a range** | **Within a range** |
| Chile | **Yes, in all cases** | **Yes, in all cases** | **At the discretion of the TEI and generally used:** by level of educational programme (post-graduate versus under-graduate); field of study or programme attended | **At the discretion of the TEI and generally used:** by level of educational programme; field of study or programme attended | **TEIs, in all cases** | **TEIs, in all cases** | **No restrictions** | **No restrictions** |
| China | **Yes, in all cases** (except for students enrolled in teacher education universities)[5] | **Yes, in all cases** | **Yes, differentiation is imposed by national framework according to:** Level of educational programme (*m*); field of study or programme attended | **Yes, differentiation is imposed by national framework according to:** Level of educational programme (*m*); field of study or programme attended | **Government agency exclusively, in all cases** | **Government agency exclusively, in all cases** | *a* | *a* |
| Croatia | **Yes, in some cases:** When student is not admitted to a place which is (fully) publicly-subsidised; part-time enrolment; and when students fail to graduate within a certain period (given period determined by TEI) | **Yes, in all cases** (except for specific agreements signed with the government authority) | **At the discretion of the TEI and generally used:** by level of educational programme (post-graduate versus under-graduate); field of study or programme attended (natural, life sciences and engineering versus social sciences and humanities); student status (part-time students versus full-time students) | **At the discretion of the TEI and generally used:** by level of educational programme (post-graduate versus under-graduate); field of study or programme attended (natural, life sciences and engineering versus social sciences and humanities); student status (part-time students versus full-time students) | **TEIs, in all cases** | **TEIs, in all cases** | A significant increase would normally be discussed with the educational authority[6] | A significant increase would normally be discussed with the educational authority[6] |
| Czech Republic | **Yes, in some cases:** Enrolment in programmes at ISCED level 5B (tertiary professional schools); when students fail to graduate within a certain period at ISCED level 5A; and enrolment in programmes delivered in foreign languages at ISCED level 5A | **Yes, in all cases**[7] | **Yes, differentiation is imposed by national framework according to:** Field of study (only for ISCED level 5B); **At the discretion of the TEI and generally used:** by field of study (only for ISCED levels 5A) | **At the discretion of the TEI and generally used:** by field of study | **TEIs, in all cases** | **TEIs, in all cases** | **Within a range** (for ISCED level 5B); **Lower limit** (for ISCED levels 5A) | **No restrictions** |
| Estonia | **Yes, in some cases:** When student is not admitted to a place which is (fully) publicly subsidised | **Yes, in the majority of cases** | **At the discretion of the TEI and generally used:** by field of study attended; student status (student's workload); level of educational programme (Bachelors, Professional higher education, Masters and Doctorate) | **At the discretion of the TEI and generally used:** by field of study attended; student status (student's workload); level of educational programme (Bachelors, Professional higher education, Masters and Doctorate) | **TEIs, in all cases** | **TEIs, in all cases** | **Maximum growth rate**[8] (maximum of 10% each year) | **Maximum growth rate** (maximum of 10% each year) |
| Finland | **In no case** | **In no case** | *a* | *a* | *a* | *a* | *a* | *a* |
| Greece | **Yes, in some cases:** Enrolment in specific postgraduate programmes; enrolment in the Hellenic Open University | *a* | **At the discretion of the TEI but rarely used** | *a* | **TEIs, in all cases** | *a* | **Government approval required** | *a* |
| Iceland | **In no case** | **Yes, in all cases** | *a* | **At the discretion of the TEI and generally used:** by level of education (post-graduate versus under-graduate); field of study or programme attended; student status (part-time students versus full-time students) | *a* | **TEIs, in all cases** | *a* | **No restrictions** |
| Japan | **Yes, in all cases** | **Yes, in all cases** | National universities/public university corporations: **At the discretion of the TEI but rarely used**; Public universities: **At the discretion of local governments but rarely used** | **At the discretion of the TEI and generally used** | National universities/public university corporations: **TEIs, in all cases**; Public universities: **Local governments** | **TEIs, in all cases** | National universities: **government fixes standard tuition fee level and the upper limit** of 120% of it; Public university corporations: **No restrictions** by central government | **No restrictions** |

Table 4.2 **Tuition fees in publicly-funded tertiary education institutions, 2007** (continued)

| | Do students pay tuition fees… | | When tuition fees are charged, are they differentiated… | | Who determines the level of tuition fees… | | Which government restrictions apply to the setting of tuition fees by… | |
|---|---|---|---|---|---|---|---|---|
| | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … public TEIs? | …publicly-subsidised private TEIs? |
| Korea | **Yes, in all cases** (except for military, naval, air-force academy and police college) | **Yes, in all cases** | **At the discretion of the TEI and generally used:** by field of study or programme attended; student status (part-time students versus full-time students) | **At the discretion of the TEI and generally used:** by field of study or programme attended; student status (part-time students versus full-time students) | **TEIs, in all cases** | **TEIs, in all cases** | **No restrictions** | **No restrictions** |
| Mexico | **Yes, in all cases**[9] | *a* | **At the discretion of the TEI** (*m*) | *a* | **TEIs, in all cases** | *a* | **No restrictions** | *a* |
| Netherlands[10] | *a* | **Yes, in all cases** | *a* | **Yes, differentiation is imposed by national framework according to:** Students above 30; student status (part-time students versus full-time students); mode of delivery (dual programmes[11]) | *a* | **TEIs only in certain cases:** Students above 30; dual programmes[11]; part-time students | *a* | **Lower limit** |
| New Zealand | **Yes, in all cases** | **Yes, in all cases** | **At the discretion of the TEI and generally used:** by level of educational programme (sometimes); field of study | **At the discretion of the TEI and generally used:** by level of educational programme (sometimes); field of study | **TEIs, in all cases** | **TEIs, in all cases** | **Upper limit** (vary by field of study); **Maximum growth rate** (maximum of 5% each year) | **Upper limit** (vary by field of study); **Maximum growth rate** (maximum of 5% each year) |
| Norway | **In no case** | **Yes, in some cases**: Depends on the level of public subsidy received by TEI[12] | *a* | **At the discretion of the TEI and generally used:** by level of educational programme; field of study or programme attended; mode of delivery | *a* | **TEIs, in all cases** | *a* | **May not exceed the cost of providing the programme**; **Upper limit on programme costs** |
| Poland | **Yes, in some cases:** When student is not admitted to a place which is (fully) publicly subsidised[13] | *a* | **At the discretion of the TEI and generally used:** by level of educational programme (1st cycle programme versus 2nd cycle programme); field of study or programme attended (vary on the basis of student demand and cost) | *a* | **TEIs, in all cases** | *a* | **May not exceed the cost of providing the programme** | *a* |
| Portugal | **Yes, in all cases** | *a* | **At the discretion of the TEI** (*m*)**:** by level of educational programme (1st and 2nd cycle programme versus 3rd cycle programme); mode of delivery (distance learning) | *a* | **TEIs, in all cases** | *a* | **Within a range** (for 1st cycle programmes, integrated programmes[14], 2nd cycle programmes providing access to a professional activity); **No restrictions** (for other 2nd cycle programmes, 3rd cycle programmes, distance learning programmes) | *a* |
| Russian Federation | **Yes, in some cases:** When student is not admitted to a place which is (fully) publicly subsidised; students studying for a second degree or taking additional classes | *a* | **At the discretion of the TEI and generally used:** by field of study or programme attended (vary on the basis of student demand) | *a* | **TEIs, in all cases** | *a* | **No restrictions** | *a* |
| Spain | **Yes, in some cases:** Enrolment at the University level; enrolment in an artistic education programme (*e.g.* Music)[15] | **In no case**[16] | **Yes, differentiation is imposed by regional framework according to:** Field of study[17] | *a* | **Educational authorities exclusively, in all cases**[18] | *a* | *a* | *a* |
| Sweden | **In no case** | **In no case** | *a* | *a* | *a* | *a* | *a* | *a* |

Table 4.2 **Tuition fees in publicly-funded tertiary education institutions, 2007** (continued)

| | Do students pay tuition fees… | | When tuition fees are charged, are they differentiated… | | Who determines the level of tuition fees… | | Which government restrictions apply to the setting of tuition fees by… | |
|---|---|---|---|---|---|---|---|---|
| | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … in public TEIs? | … in publicly-subsidised private TEIs? | … public TEIs? | …publicly-subsidised private TEIs? |
| Switzerland | **Yes, in all cases** | **Yes, in all cases** | Federal Institutes of Technology/Universities: **No differentation of fees allowed by national framework;** Universities of applied sciences: **Yes, differentiation is imposed by national framework according to:** level of education programme (Basic studies (bachelor/master) *vs* advanced studies); Higher VET study programmes and courses: **In some cases** (enrolment in programmes in a given field of study) | Universities of applied sciences: **At the discretion of the TEI and generally used**: field of study or programme attended (engineering *vs* economics); Higher VET study programmes and courses: **Yes, differentiation is imposed by national framework according to**: field of study or programme attended | Federal Institutes of Technology: **TEIs, in all cases;** Universities: **Educational authorities** (cantons); Universities of applied sciences: Educational authorities; **TEIs only in certain cases** (advanced studies); Higher VET study programmes and courses: **TEIs, in all cases** | Universities of applied sciences: **TEIs, in all cases;** Higher VET study programmes and courses: **Negotiation between educational authorities and TEIs, in all cases** | Federal Institutes of Technology: **Tuition fees must be "socially acceptable";** Universities: *a* ; Universities of applied sciences: **No restrictions** (advanced studies); Higher VET study programmes and courses: **No restrictions** | Universities of applied sciences: **No restrictions;** Higher VET study programmes and courses: **Within a range** |
| United Kingdom (Eng./Wal./N.Irl.)[19] | *a* | **Yes, in all cases** | *a* | **Yes, differentiation is imposed by national framework according to:** Level of educational programme (under-graduate versus post-graduate); student status (part-time students versus full-time students) | *a* | **TEIs, in all cases** | *a* | **Upper limit** (for full-time undergraduate and postgraduate initial teacher education courses); **No restrictions** (for postgraduate and part-time students) |
| United Kingdom (Scot.)[19] | *a* | **Yes, in some case**s: Enrolment in postgraduate programmes; part-time enrolment; students studying for a second degree[20] | *a* | **Yes, differentiation is imposed by national framework according to:** Level of educational programme (post-graduate); student status (part-time students versus full-time students | *a* | **TEIs only in certain cases:** part-time students; postgraduate students; and a small number of non-subsidised undergraduate courses | *a* | **Upper limit** (for postgraduate initial teacher education courses); **No restrictions** (for postgraduate and part-time students) |

***Definitions:*** This table focuses on tuition fees for domestic students only (*i.e.* international students are not considered) in public TEIs and publicly-subsidised private TEIs. Publicly-subsidised private TEIs are those private TEIs which receive government funds to subsidise teaching and learning in the institution. The term 'tuition fee' refers solely to the amount payable by the student to the TEI each academic year related to the educational programmes being pursued. Payments for entrance examinations, subscriptions paid to student organisations, contributions paid just once by new students (*e.g.* registration fees, laboratory fees), or special contributions for additional services such as insurance coverage and other ancillary services (*e.g.* housing and meals) should not be included. Tuition allowances and waivers are not considered, *i.e.* information refers to gross tuition fees, not net tuition fees.
The term "in all cases" refers to all distinct instances in which tuition fees are set, that is for all programmes, fields of study, student status, mode of delivery, year of attendance, or type of study place.

***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. Students in courses designed to enable entry into a higher education award are generally exempt from tuition fees.
3. Information on tuition fee arrangements is not available for all students in publicly-subsidised private TEIs.
4. Post-initial study programmes are the second level specialising master programmes which are subsequent to a first level master programme. In addition, TEIs are allowed to differentiate tuition fees for post-initial study programmes according to the socio-economic status of the students.
5. Since September 2007 students enrolled in teacher education universities which are under the direct leadership of the Ministry of Education do not pay tuition fees.
6. In practice, this situation has not been observed yet.
7. Only two private institutions out of 43 are publicly subsidised.
8. In professional higher education institutions, tuition fees have to be at least 75% of the amount paid by the state for a publicly-subsidised study place.
9. Tuition fees vary according to the public or private nature of institutions. For instance, tuition fees charged by some public institutions are only symbolic.
10. Public institutions do not exist at this level of education and most of the students are enrolled in government dependent institutions.
11. Programme alternating periods in a TEI and in the workplace.
12. Publicly-subsidised private TEIs receive different levels of public subsidies and some institutions don't charge any tuition fees.
13. Students not admitted to a place fully publicly subsidised are termed "part-time" students according to the 2005 Law on Higher Education.
14. Programme offering a joint first and second cycle degree.
15. Students enrolled in tertiary-level vocational programmes are exempt from tuition fees.
16. Only some private institutions providing tertiary-level vocational programmes receive public subsidies.
17. In addition, tuition fees vary across autonomous regions.
18. A national agreement negotiated with autonomous regions establishes the maximum growth rate of tuition fees.
19. All higher education institutions in the United Kingdom are legally private independent bodies with a charitable status, most of which are publicly funded.
20. Most of the students studying for a second degree or on a part-time basis pay tuition fees.

***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.

*Fee differentiation is common within countries which charge fees*

There is a large degree of within-institution fee differentiation across countries, considering those where fees are charged (see Table 4.2). In a number of countries – Australia, Belgium (Flemish Community), China, the Czech Republic (for public tertiary professional schools), the Netherlands, Spain (in the university sector), Switzerland (for public universities of applied sciences and private Higher VET study programmes) and the United Kingdom – the national framework imposes differentiation along a given dimension. In these countries, the national framework specifies fee differentiation by: level of educational programme (*e.g.* post-graduate versus under-graduate) in China, Switzerland (for public universities of applied sciences and private Higher VET study programmes) and the United Kingdom; field of study in Australia, China, the Czech Republic (for public tertiary professional schools) and Spain; student status in the Flemish Community of Belgium, the Netherlands (higher fees for students above 30; part-time versus full-time students) and the United Kingdom (part-time versus full-time students); whether student was granted access to a publicly-subsidised study place or not in Australia; and mode of delivery in the Netherlands (for students alternating periods of study and periods of work).

In another group of countries – Belgium (Flemish Community) (for part of post-graduate education), Chile, Croatia, Estonia, Korea, Mexico, New Zealand, Poland, Portugal and the Russian Federation, and in Iceland, Japan, Norway and Switzerland (universities of applied sciences only) for publicly-subsidised institutions only -, fee differentiation is left at the discretion of individual TEIs which, generally make use of it. Typical bases for the differentiation include the level of the programme (Flemish Community, Chile, Croatia, Estonia, Iceland, New Zealand, Norway, Poland and Portugal), the field of study (Chile, Croatia, Estonia, Iceland, Korea, New Zealand, Norway, Poland and the Russian Federation) - often in relation to student demand (as in Poland and the Russian Federation), student status (Croatia, Estonia, Iceland and Korea), and mode of delivery (Norway and Portugal).

Barr (2004) argues that institutions should be free to vary their tuition fees provided there is a fee ceiling and that student support systems remove financial constraints at the time of attendance. In support of this view, he contends that fee differentiation (within and across institutions) has a number of advantages:

- Price signals are useful in tertiary education, improving efficiency and making the system more responsive to student and employer preferences through competition. Fixed prices can distort demand. For instance, a well-taught cheaper course at a local university might well suit a student better than a more expensive course – demand would be distorted if fees were fixed. Fixed prices can also have adverse effects on the supply side. For instance fee ceilings erode incentives to improve quality since costs cannot be covered by fee increases while price floors erode incentives to increase efficiency given that benefits cannot be appropriated through lower fees.
- Differentiated fees make funding open ended. Institutions have some autonomy over their income stream in contrast to the funding envelop defined by flat fees.
- Differentiated fees are fairer in that they facilitate redistribution from the better-off to the worse-off. Differentiated fees introduce higher charges for those who can afford them (which, in the presence of income-contingent loans refers to a

person's earnings as a graduate, not to family circumstances while a student), and permits the resulting savings to be used to help less affluent persons to pay those charges.

– Differentiated fees are fairer in the sense that someone going to a small local university pays less than someone going to an internationally renowned one.

Coherent bases for fee differentiation could be the level of student demand, the cost of provision, and the level of public subsidy. Economic theory predicts that fee differentiation would lead to improvements in the average quality and in price-quality ratios, and this claim seems to be supported by the data (Hoxby, 1997). Empirical evidence also suggests that the responsiveness to price changes of individuals demanding tertiary education is low, especially for more affluent students (Canton and Vossensteyn, 2001) (see also Section 4.4.4).

A number of prerequisites need to be in place for differentiated fees to work effectively. Students and their parents must have access to reliable information on study programmes, quality, tuition fees and future income prospects to make informed choices. In addition, a competitive and transparent tertiary education system together with good levels of student mobility facilitate the effectiveness of differentiated fees (Canton and Vossensteyn, 2001).

*Tertiary institutions generally have a say in setting tuition fees but often within a number of restrictions*

When tuition fees are charged, institutions have a say in setting tuition fee levels in almost all countries (see Table 4.2). Only in China, Japan (for public universities), Spain (for the university sector) and Switzerland (for public universities and universities of applied sciences) are tuition fee levels set exclusively by educational authorities (by regional governments in Spain; local governments in Japan; and cantons in Switzerland). In the Netherlands, the level of fees is also exclusively centrally dictated by the Ministry except for the fees paid by students aged above 30, part-time students and students alternating periods of study and periods of work. Similarly, in Scotland institutions are only allowed to set the level of tuition fees for part-time and post-graduate students and for a small number of non-subsidised under-graduate courses. In all other cases shown in Table 4.2 where institutions charge fees, they determine the final level of tuition fees.

However, when institutions determine the level of tuition fees, they do so within restrictions imposed by educational authorities in most countries shown in Table 4.2. The only countries where institutions of tertiary education freely establish tuition fee levels are Chile, Croatia (but a 'significant' increase would need the agreement of educational authorities), the Czech Republic (in the publicly-subsidised private sector), Iceland (in the publicly-subsidised private sector), Japan (for public university corporations and in the publicly-subsidised private sector), Korea, Mexico, Portugal (for distance learning and most post-graduate programmes), the Russian Federation, Switzerland (for publicly-subsidised private universities of applied sciences and public Higher VET study programmes) and the United Kingdom (for post-graduate programmes and part-time students, only). The typical restrictions which apply to the setting of tuition fees in all other cases are:

– *Upper limit*: for publicly subsidised places in Australia; variable across fields of study in New Zealand; set at the level of the cost of provision in Norway (in the publicly-subsidised private sector) and Poland; at 120% of a standard tuition fee

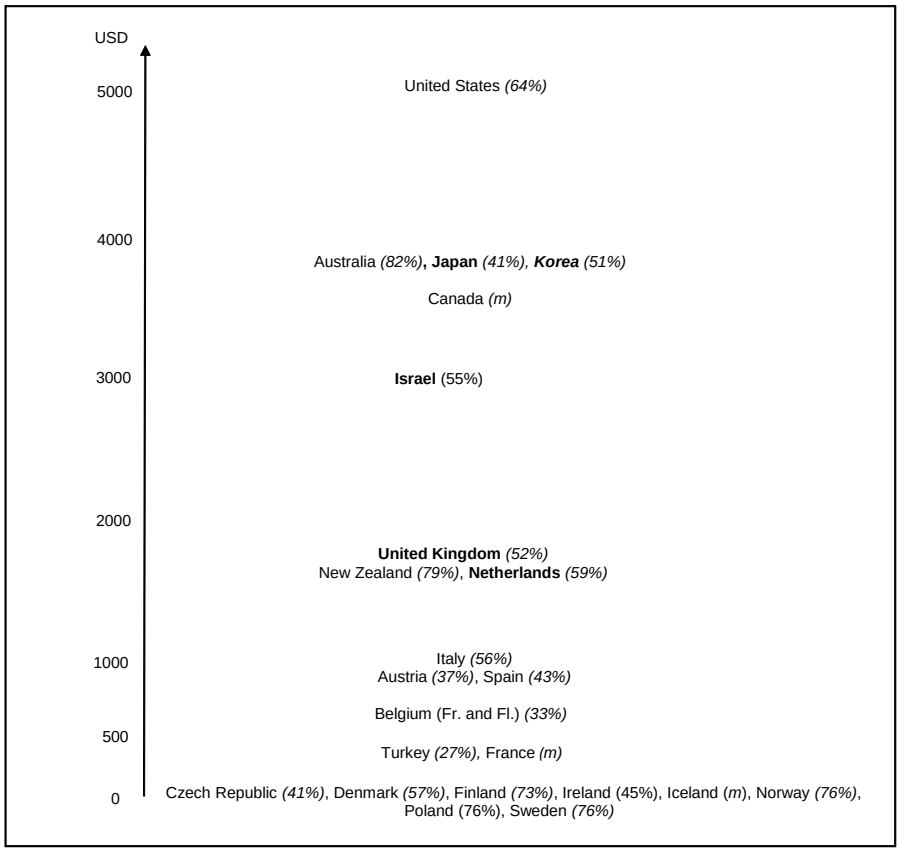
fixed by the government in national universities in Japan; and for full-time under-graduate and post-graduate initial teacher education programmes in the United Kingdom (except under-graduate programmes in Scotland).

– *Lower limit*: for unsubsidised places in Australia; and for the fees paid by students aged above 30, part-time students and students alternating periods of study and periods of work, in the Netherlands.

– *Within a range*: in the Flemish Community of Belgium; public tertiary professional schools in the Czech Republic; most under-graduate and some post-graduate programmes in Portugal; and publicly-subsidised private Higher VET study programmes in Switzerland.

– *Maximum growth rate*: maximum annual increase of 10% in Estonia; and 5% in New Zealand, in 2007.

**Figure 4.10. Average annual tuition fees charged by tertiary-type A public institutions for full-time national students, in USD converted using PPPs (academic year 2004/2005)**




*Note:* Countries in bold indicate that tuition fees refer to public institutions but more than two-thirds of students are enrolled in private institutions. The net entry rate in tertiary-type A (in %) is added next to country names. For example, in the Netherlands, average tuition fees reach USD 1 646 in public tertiary-type A institutions whereas 59% of students enter this level of education. This figure does not take into account grants, subsidies or loans that partially or fully offset the student's tuition fees. For Israel, the Netherlands and the United Kingdom, public institutions do not exist at this level of education and most of the students are enrolled in government dependent institutions.

*Source:* Reproduced from OECD (2007a), Chart B5.1.

Fee stabilisation policies might be appropriate to ensure cost containment and moderation. These policies minimise the effects of institutional pricing strategies in a situation where student's entitlement to financial aid is tied with the total costs of attendance (the risk being that institutions continue to raise their fees if more financial aid becomes available to students). In New Zealand, from 2004, the government introduced a policy of fee- and course-costs maxima (FCCM), which limits the extent to which institutions can raise their fees. Under the FCCM policy, there is a set of upper limits for under-graduate fees, with a maximum in each field. Fees can be increased to this maximum provided that the increase is no more than 5% in any year. Separate limits exist for post-graduate fees.

## 4.7 Allocation of public subsidies to institutions

### *4.7.1 Country mechanisms to allocate public subsidies to institutions*[68]

*The use of block grants and targeted funding is widespread across countries*

The use of block grants to allocate public funding to institutions for teaching and learning activities is widespread in participating countries (see Table 4.3). Only five countries use line-item budgeting instead of block grants: Greece, Korea, Mexico (for institutions created before 1997), the Russian Federation and Switzerland. In a significant number of countries, block grants for teaching and learning also include elements of research funding (*e.g.* Flemish Community of Belgium, Chile, China, Finland, Japan, Norway, Spain).

The allocation of public funding to institutions on a targeted basis (*i.e.* money for a particular purpose) has also become common practice among participating countries, as it now exists in 17 of the 23 countries shown in Table 4.3. Examples of specific purposes are improving teaching quality (*e.g.* in Australia the *Learning and Teaching Performance Fund*, see Box 8.1 in Chapter 8), promoting innovation (*e.g.* Chile, the Czech Republic), fostering better management practices (*e.g.* Mexico), modernising infrastructure (*e.g.* Australia), encouraging partnerships with the private sector (*e.g.* New Zealand), supporting particular fields (*e.g.* teacher education in Chile), and improving quality assurance processes (*e.g.* Portugal). More detailed examples of programmes used for the allocation of funds on a targeted basis are provided in Box 4.1 for Mexico and New Zealand.

68 This Section deals mostly with the allocation of public subsidies to institutions for teaching and learning activities. The allocation of public funds for research activities is treated in Chapter 7.

Table 4.3 **Mechanisms to allocate public funds to tertiary education institutions for teaching and learning activities, 2007**

| | Allocation mechanisms used by government authorities and/or intermediate agencies to fund TEIs' teaching and learning activities | Are private institutions eligible for public funds under each mechanism? | Bases for allocation | Criteria used in funding formulas | For public institutions, is there a separate budget for capital expenditure not included in the allocation mechanisms described? | Do private institutions benefit from public funds for capital expenditure? |
|---|---|---|---|---|---|---|
| Australia[1] | **Block grant** *Commonwealth Grant Scheme* | **Yes, but only in exceptional cases** (in certain fields of study identified as 'national priorities') | **Funding formula**[2] | Student load by broad discipline (additional loadings for certain types of student load) | **No, integrated in the block grant** (additional funds are available on a competitive basis for specific projects) | **Yes, but with some restrictions** (competitive funds are limited to small number of designated TEIs) |
| | **Block grant** *National Institutes* | **No** | **Historical trends** | *a* | | |
| | **Block grant** *Higher Education Equity Support Programme* | **No** | **Funding formula** | Equity role (number of domestic low socio-economic (SES) students enrolled at the institution, by the group's retention and success ratios, weighted to low SES students from rural and isolated areas, by the group's retention and success ratios) | | |
| | **Mix of targeted funds and block grant** *Higher Education Disability Support Programme* | **No** | **Funding formula;** Reimbursement for costs associated with assisting students with special needs; Funding to support disability liaison officers | Equity role (Number of domestic students with a disability enrolled at the institution, weighted by the retention and success ratios for those students) | | |
| | **Targeted funds** *Carrick Institute for Learning and Teaching in Higher Education* | **No** | **Competitive basis** | *a* | | |
| | **Targeted funds** *Learning and Teaching Performance Fund* | **No** | **Funding formula** | Student satisfaction with generic skills, student satisfaction with good teaching, overall student satisfaction, full-time employment, further part-time or full-time study, all bachelor students' progress rates, commencing bachelor students' retention rates. | | |
| | **Targeted funds** *Collaboration and Structural Reform Fund* | **Yes, in a way similar to public institutions** | **Competitive basis; No competition** (Minister can approve projects in specific priority areas) | *a* | | |
| Belgium (Flemish Community) | **Block grant** (includes elements of research funding) | **Yes, but with some restrictions** (only private TEIs under public responsibility)[3] | **Historical trends**; **Funding formula**[4] | Number of first year students, number of credits accumulated by students, fields of study, number of degrees awarded, equity role | **Yes, completely separate** | **Yes, but with some restrictions** (only private TEIs under public responsibility)[2] |
| | **Targeted funds** | **Yes, but with some restrictions** (only private TEIs under public responsibility)[3] | **No competition** (based on an evaluation of a teaching development plan and performance) | *a* | | |
| Chile | **Block Grant** (includes elements of research funding) | **Yes, but with some restrictions** (only private TEIs part of the Council of Rectors) | **Historical trends** (95%); **Funding formula** (5%) | Academic staff as full time equivalent, number of students enrolled (excluding post-graduate students), level of qualifications of academic staff, number of indexed journal articles published, number of ongoing research projects, number of programmes offered at under-graduate level | **No, integrated in the block grant** | **Yes, in a way similar to public institutions** (only private TEIs receiving indirect funds and/or block grant) |
| | **Indirect Funding** (includes elements of research funding) | **Yes, in a way similar to public institutions** | **Competitive basis** (for a given TEI, based on performance of entering students at the university entrance exam) | *a* | | |
| | **Targeted funds** | **Yes, but with some restrictions** (only private TEIs part of the Council of Rectors)[5] | **Competitive basis**[6] | *a* | | |
| China | **Block grant** (includes elements of research funding) | **Yes, but with some restrictions** (only in the context of certain government's projects/programmes) | **Historical trends**; **Funding formula** | Number of staff, number of first year students, level of qualifications of academic staff, cost per student, field of study | **Yes, completely separate** | **No** |
| | **Targeted funds** | **Yes, in a way similar to public institutions** | **Competitive basis** | *a* | | |
| Croatia | **Block grant** (includes elements of research funding) | **Yes, but only in exceptional cases** (only in certain fields of study identified as 'national priorities') | **Historical trends**; **Funding formula** | Number of staff (and external associate staff), number of first year students, field of study, income from non-public sources, type of institution, duration of study programme[7] | **Yes, completely separate** | **No** |
| Czech Republic | **Block grant** | **Yes, but only in exceptional cases** (only for not-for-profit organisations and in certain fields of study) | **Funding formula** | Number of students enrolled, cost per student, field of study, number of graduates | **Yes, completely separate** | **No** |
| | **Block grant** (exclusively at the ISCED level 5B) | **Yes, but with some restrictions** (about 10-30 % lower than public institutions) | **Funding formula** | Number of students enrolled, cost per student, field of study | | |
| | **Targeted funds** | **No** | **Competitive basis** | *a* | | |
| Estonia[8] | **Block grant** | **Yes, but with some restrictions** (only in certain fields of study, for accredited programmes provided by private TEIs which receive state-commissioned funds) | **Historical trends** (main part); **Funding formula**; **Priority fields of study** | Agreed number of state-commissioned places per field, cost per student, fields of study, factor for fields of study, level of study | **Yes, there is a different budget line.** | **No** |
| Finland | **Block grant** (includes elements of research funding) | **Yes, in a way similar to public institutions**[9] | **Funding formula** | **Polytechnics:** number of students enrolled (70%), number of graduates (30%, including post-graduate level) **Universities:** target number of degrees (including post-graduate programmes), regional role | **No, integrated in the block grant** | *a* |
| | **Targeted funds** | **Yes, in a way similar to public institutions**[9] | **Competitive basis** | *a* | | |
| Greece | **Line-item budget** | **No**[10] | **Funding formula** | Number of staff, number of first year students, level of qualifications of academic staff, cost per student, field of study, expenditure on renovation and infrastructure | **No, integrated in the line-item budget** | **No** |
| Iceland | **Block grants**[11] | **Yes, in a way similar to public institutions** | **Funding formula** | Equivalent full-time students, field of study | **No, integrated in the block grant** | **No** |
| Japan | **Block grant** (includes elements of research funding) | **Yes, but with some restrictions** (limited amount for operational expenses only) | **Funding formula** | **National universities:** number of academic staff, number of students (including post-graduate students), cost per student, high priority field, regional role, equity role, quality evaluation by a review panel **Public universities/public university corporations**: at the discretion of local governments (*e.g.* number of students enrolled including post-graduate students) **Private institutions:** number of staff, number of academic staff, number of first year students, number of students (including post-graduate students), cost per student, field of study, regional role (*e.g.* premium for accomplished regional impact), income from non-public sources | National universities: **Yes, completely separate**; Public universities/public university corporations: **At the discretion of local governments** | **Yes, but only in exceptional cases** (establishment and improvement of facilities for research, equipment for education and research, facilities for disaster prevention) |
| | **Targeted funds** (includes elements of research funding) | **Yes, in a way similar to public institutions** | **Competitive basis** | *a* | | |
| Korea | **Line-item budget** | **No** | **Funding formula** | Number of staff, number of enrolled students, field of study, total area of buildings and facilities, degree of innovation | **Yes, completely separate** | **No** (entitled to borrow money from the government agency) |
| | **Targeted funds** | **Yes, but with some restrictions** (only in the context of certain government's projects/programmes, which is on a competitive basis). | **Competitive basis** | *a* | | |

Table 4.3 **Mechanisms to allocate public funds to tertiary education institutions for teaching and learning activities, 2007** (continued)

| | Allocation mechanisms used by government authorities and/or intermediate agencies to fund TEIs' teaching and learning activities | Are private institutions eligible for public funds under each mechanism? | Bases for allocation | Criteria used in funding formulas | For public institutions, is there a separate budget for capital expenditure not included in the allocation mechanisms described? | Do private institutions benefit from public funds for capital expenditure? |
|---|---|---|---|---|---|---|
| Mexico | **Line-item budget** (includes elements of research funding) (exclusively at the ISCED level 5) | **No** | **Historical trends**[12] | *a* | **Yes, completely separate** | **No** |
| | **Block grants** (for new public TEIs) | *m* | *m* | *m* | | |
| | **Targeted funds** (includes elements of research funding) (exclusively at the ISCED level 5) | **No** | **Competitive basis** | *a* | | |
| Netherlands[13] | **Block grants** (main part) (includes elements of research funding) (at the ISCED level 5 and 6) | **Yes, but with some restrictions** (only publicly-subsidised private TEIs) | **Historical trends**; **Funding formula**[14] | **Universities: number of first year students and number of degrees awarded; Universities of applied science: number of students leaving TEIs without a diploma and number of student leaving with a diploma (Criteria may vary from one institution to another)** | *a* | **Yes, but with some restrictions** (integrated in the block grant) (only publicly-subsidised private TEIs) |
| | **Targeted funds** (includes elements of research funding) (at the ISCED level 5 and 6) | **Yes, but with some restrictions** (only publicly-subsidised private TEIs) | **Competitive basis** (in some cases); **At the discretion of the ministry depending on given fund** | *a* | | |
| New Zealand | **Block grant** | **Yes, in a similar way to public institutions**[15] | **Negotiations with government authorities**[16]; **Funding formula** | Number of full-time equivalent students enrolled (including post-graduate) (*i.e.* only domestic students except for research-based degrees where foreign students are included), field of study, level of study, cost per student (*i.e.* does not cover the full cost of provision but rather subsidises the cost to students), institution's fixed costs, type of institution | **No, integrated in the block grant** (case by case negotiation with government authority for significant capital injections) | **No, integrated in the block grant** but at a different rate than public TEIs (not eligible for significant capital injections) |
| | **Targeted funds** | **Yes, but with some restrictions** (only in the context of certain government's | **Competitive basis** (some include research funding) **Funding formula** | *a* Equity role (institutions attracting under-represented groups such as Māori people) | | |
| Norway | **Block grant** (includes elements of research funding) | **Yes, but with some restrictions** (based on political decision with bases for allocation similar to those applied to public TEIs) | **Historical trends; Funding formula** | Number of credits accumulated by students (according to six cost categories of studies), number of international student exchanges, research-based indicators | **Yes, completely separate** | **No** |
| Poland | **Block grant** | **No**[17] | **Historical trends**; **Funding formula** | Number of academic staff, level of qualifications of academic staff, field of study, number of full-time students, number of students in international exchange programmes | **Yes, completely separate** | **Yes, but only in exceptional cases and with some restrictions** (on the basis of government authority's decision with restrictions specified in regulation); |
| | **Targeted funds** | **Yes, but only in exceptional cases** (only in certain fields of study and on the basis of government decision) | **Funding formula** | Depends on specific targeted fund (*e.g.* number of students enrolled, number of disabled students) | | |
| Portugal | **Block grant** | **No** | **Funding formula** | Number of staff, number of academic staff, number of students enrolled (including post-graduate students), level of qualifications of academic staff, number of graduates (including at post-graduate level), average study duration | **Yes, completely separate** | **Yes, in a way similar to public institutions** |
| | **Targeted funds** | **Yes, in a way similar to public institutions** (for special programmes such as quality assurance and academic improvement programmes); **Yes, but only in exceptional cases** (public subsidy to Catholic University) | **Competition**; **Negotiations with government authorities** (on a case by case basis) | *a* | | |
| Russian Federation | **Line-item budget** | **No** | **Historical trends**; **Funding formula** | Field of study, level of qualifications of academic staff, number of students per teacher, regional factor (TEIs located in regions with hard climatic conditions receive additional funding) | **Yes, completely separate** | **No** |
| | **Targeted funds** | **Yes, but with some restrictions** (only in the context of certain government's projects/programmes) | **Competitive basis** | *a* | | |
| Spain[1] | **Block grant** (includes elements of research funding) | **No** | **Funding formulas** (in most autonomous regions); **Negotiations with government authorities** (in some autonomous regions)[18] | Differs by autonomous region. Typically: number of first year students, number of students enrolled (excluding post-graduate students), cost per student, field of study, number of credits accumulated by students, number of graduates (including at post-graduate level), number of students completing each year of study, level of qualifications of academic staff, income from non-public sources, average study duration | **Yes, completely separate** | **No** |
| Sweden | **Block grant** (main part) (almost exclusively at the ISCED level 5) | **Yes, in a way similar to public institutions** | **Funding formula** | Number of students enrolled (excluding post-graduate students), field of study, number of credits accumulated by students | **No, integrated in the block grant** (entitled to borrow money from the state) | **No, integrated in the block grant** (not entitled to borrow money from the state) |
| | **Targeted funds** (in some cases) | **Yes, in a way similar to public institutions** | **No competition** | *a* | | |
| Switzerland | Federal institutes of technology, universities and universities of applied sciences: **Line-item budget** (at the ISCED level 5 and 6) | **No** | **Negotiations with government authorities and intermediate agencies**; **Funding formulas** | **Federal institutes of technology:** number of students enrolled (including post-graduate students), field of study, high priority field **Universities**: number of students enrolled (including post-graduate students), field of study **Universities of applied sciences**: cost per student, field of study, number of credits accumulated by students | **No, integrated in the line-item budget and the targeted funds** | **Yes, but with some restrictions** (only universities of applied sciences for rent subsidies) |
| | Universities of applied sciences: **Block grants** (*e.g.* distance learning programme and SWITCH) (exclusively at the ISCED level 5) | **Yes, but only in exceptional cases** (only in the context of certain government's projects/programmes) | **Negotiations with government authorities and intermediate agencies**; **Funding formulas** | High priority field | | |
| | Universities: **Targeted funds** (project-specific funding) (exclusively at the ISCED level 5) | **Yes, but only in exceptional cases** (only in the context of certain government's projects/programmes) | **Negotiations with government authorities and intermediate agencies**; **Funding formulas**; **Competitive basis** | High priority field | | |
| | Universities: **Targeted funds** (building investments) (exclusively at the ISCED level 5) | **No** | **Negotiations with government authorities and intermediate agencies**; **Funding formulas**; **Competitive basis** | High priority projects | | |
| | Universities of applied sciences: **Targeted funds** (equal opportunities and cooperation) (exclusively at the ISCED level 5) | **Yes, but only in exceptional cases** (only in the context of certain government's projects/programmes) | **No competition** | *a* | | |
| | Universities of applied sciences: **Targeted funds** (restructuring projects, construction and rent subsidies) (exclusively at the ISCED level 5) | Restructuring projects: **No** Construction and rent subsidies: **Yes, but with some restrictions** (only for a rent subsidy) | Restructuring projects: **Competitive basis** Construction and rent subsidies: **No competition** (assessment of applications) | *a* | | |
| | Higher VET study programmes and courses: **Targeted funds** (exclusively at the ISCED level 5) | **Yes, but with some restrictions** (only for recognised programmes and courses) | **Historical trends** | *a* | | |

Table 4.3 **Mechanisms to allocate public funds to tertiary education institutions for teaching and learning activities, 2007** (continued)

| | Allocation mechanisms used by government authorities and/or intermediate agencies to fund TEIs' teaching and learning activities | Are private institutions eligible for public funds under each mechanism? | Bases for allocation | Criteria used in funding formulas | For public institutions, is there a separate budget for capital expenditure not included in the allocation mechanisms described? | Do private institutions benefit from public funds for capital expenditure? |
|---|---|---|---|---|---|---|
| United Kingdom[19] | **Block grant** (main part) | **Yes, but with some restrictions** (only publicly-subsidised private TEIs) | **Funding formula** | Mainly number and type of students, subjects taught and mode of study | *a* | **Yes, but with some restrictions** (completely separate from the block grant and targeted funds) (only publicly-subsidised private TEIs) |
| | **Targeted funds** | **Yes, but with some restrictions** (only publicly-subsidised private TEIs) | **Competitive basis** | *a* | | |

***Definitions:*** This table focuses only on the allocation mechanisms used by government authorities and/or intermediate agencies to fund 'teaching and learning' activities (*i.e.* operational expenses including salaries of staff, capital investments, specific purposes, etc.) in TEIs at ISCED levels 5 and 6 ('under-graduate' and 'post-graduate'). This table considers a given allocation mechanism if the activities it funds fall in the following categories: (1) Teaching and Learning Activities at ISCED levels 5 and 6; (2) Teaching and Learning Activities at ISCED level 5 only; (3) Teaching and Learning Activities at ISCED level 6 only; (4) Teaching and Learning Activities at ISCED levels 5 and 6 and Research Activities and (5) Teaching and Learning Activities at ISCED level 5 and Research Activities. Allocation mechanisms with the purpose of funding primarily research activities are covered in the Chapter "Enhancing the Role of Tertiary Education in Research and Innovation". If some of the allocation mechanisms described above include elements of research funding, this is indicated in parentheses.
*Public funds* refer to expenditure of public authorities at all levels of government (central, regional, local). They include spending on education/research activities by ministries or equivalent institutions dealing with different areas (*e.g.* Health and Agriculture) as well as spending channelled through intermediate agencies.
*Allocation mechanisms* refer to schemes to allocate public funds directly to TEIs to conduct their activities. Both public and private institutions are considered in this table (Columns 2 and 6 assess the differences between these two types of institutions regarding the allocation of public funds).
*Line-item budget* generally involves restrictions on how TEIs can spend funds received from government authorities and/or intermediate agencies. In other words, TEIs need to spend the budget in accordance with the expenditure items specified in the 'line-item' budget.
*Block grant* refers to a large sum of money granted by government authorities and/or intermediate agencies to each TEI without strings attached as to the way it is to be spent.
*Targeted funds* refer to an amount of money awarded by government authorities and/or intermediate agencies to TEIs, which are allocated with a particular purpose (on a targeted basis). Examples of specific purposes are improving teaching quality, promoting innovation, fostering better management practices, modernising infrastructures, and encouraging partnerships with the private sector.
*Indirect funding* , which exists in Chile, consists of extra funding allocated to institutions in proportion to the number of the 'best' entering students (as determined by scores at the tertiary education national entrance examination) the institutions are able to attract.
*Funding formula* refers to a formally defined procedure (a formula) used by government authorities and/or intermediate agencies to determine the level of public funds allocated to TEIs based on a set of predetermined criteria, which in most cases are input-, output- or performance-oriented.
*Competitive basis* refers to a process by which a TEI is selected from among two or more contestants for the allocation of limited resources. If the allocation of targeted funds results from the assessment of individual applications from institutions (*i.e.* the decision of whether or not to grant funding on the basis of an application by an institution is unrelated to applications by other institutions), then the basis for allocation is considered 'No competition'.
*Capital expenditure* refers to spending on assets that last longer than a year such as expenditure on construction, renovation or major repairs to buildings (immovable) as well as on new or replacement equipment (e.g. furniture, computers, etc.).

***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. Funding for additional student places may be allocated on a competitive basis.
3. Private TEIs that are not under public responsibility are not eligible for public funds but can offer accredited Bachelor and Master courses.
4. Following the full implementation in the forthcoming year of the new funding model, the funding formula will be the only basis for allocation.
5. Private TEIs that are not part of the Council of Rectors are eligible for public funds only in specific areas (*e.g.* teacher education).
6. Annual competitions mostly focus on curricular innovation and areas of national interest (*e.g.* teacher education). Only public institutions are eligible for experimental performance contracts to enhance institutional effectiveness and strengthen accountability.
7. The funding formulas will be changed in the forthcoming year.
8. About 10% of the national budget for tertiary education comes from European structural funds.
9. All universities are public, but some polytechnics are private institutions.
10. Private institutions at the tertiary level are not recognised by educational authorities (there was a debate on whether to provide such recognition at the time this Table was prepared).
11. Block grants are allocated through performance contracts, which are negotiated between government authority and individual TEIs.
12. Other criteria are used as well, such as the number of students (including post-graduate students), cost per student, field of study and number of academic staff.
13. Public institutions do not exist at this level of education and most of the students are enrolled in government dependent institutions.
14. In most cases, funding formulas is the only basis for allocation for universities of applied science.
15. The mechanism for funding private institutions is similar in principle but there are currently differences in process of application.
16. Government authorities (Tertiary Education Commission) use agreed investment plans developed by the TEIs coupled with a funding formula as the basis for allocation.
17. Only five private catholic universities receive public funds.
18. The bases for allocating public funds vary by autonomous region and it is difficult to express the average for the country as there are 17 autonomous regions.
19. All higher education institutions in the United Kingdom are legally private independent bodies with a charitable status, most of which are publicly funded.

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

Chile, in addition to block grants and targeted funds, uses a fairly unique mechanism to allocate public funds to institutions, called 'indirect public funding' (Aporte Fiscal Indirecto). It consists of extra funding allocated to institutions in proportion to the number of the 'best' entering students (as determined by scores at the tertiary education national entrance examination) the institutions are able to attract. This funding stream was introduced with the objective of fostering competition for students between institutions.[69]

**Box 4.1. Targeted funding in Mexico and New Zealand**

***Mexico – A multitude of targeted funding streams as part of the 'extraordinary subsidy'***

In Mexico, the federal government established a number of funding streams to be allocated to institutions on a targeted basis. They form what is called the 'extraordinary subsidy' to public institutions, which represented in 2005 on average 11% of public subsidies received by state public universities. The main programmes are:

- The Comprehensive Programme for Institutional Strengthening (PIFI), the Institutional Programme for Innovation and Development (PIID), and the Programme for the Institutional Improvement of Public Teacher Education Institutions (PROMIN) which seek the improvement of the quality of educational programmes, the introduction of innovative curricula, the development of tutoring schemes for students and the improvement of management practices. The participation in these programmes entails, for each institution, the development of a strategic document providing objectives and a strategy to reach them in a period of five years. This grants an opportunity to reflect on the specific mission of the institution in light of regional, state-level and national needs.
- The Faculty Enhancement Programme (PROMEP) with the objective of enhancing of the quality of academic bodies.
- The Fund of Multiple Contributions (FAM) targeting the expansion and upgrading of the infrastructure.
- The University Development Support Programme (PROADU) targeting the development of national and international collaboration of academic staff.
- The National Programme for Strengthening Postgraduate Education (PFPN).

***New Zealand -- The Strategic Development Component of institutional funding***

In New Zealand, the Strategic Development Component of institutional funding contains a number of funds, intended to help TEIs align their provision with the system's *Tertiary Education Strategy*. Among the funds in this component are:

- *Partnerships for Excellence*: This fund enables institutions to support major strategic initiatives. Government funding under this scheme is to be matched by contributions from the private sector.
- *ITP Business Links Fund*: Participation in this fund requires institutes of technology and polytechnics (ITPs) to negotiate an industry engagement plan with educational authorities. The plan outlines how an ITP intends to engage or expand its connections with business and industry groups. Funding is allocated on the basis of achieving agreed milestones under the plan.
- *The Innovation Development Fund*, which is intended to help institutions develop initiatives that will support their strategies.
- *Special Supplementary Grants - Tertiary Students with Disabilities*: These provide funding for institutions so that they can help students with disabilities to participate and achieve in tertiary education.
- *e-Learning Collaborative Development Fund*, which funds projects where institutions work together on innovative e-learning projects.
- The Quality Reinvestment Programme which supports ITPs and Wānanga in aligning their certificate and diploma courses with the Tertiary Education Strategy.

69 In 2006, institutions received extra funding for each of the 27 500 best ranked students (among an average population of 230 000 students who took the national entrance examination) they were able to attract. In this scheme, students selected as being among the 'best' 27 500 are grouped into 5 brackets according to the examination score, the objective of which is to allocate the extra funding per student in relation to the 'ability' of the student. For instance, institutions receive 12 times a greater amount for a student placed in the highest-ability bracket than for a student placed in the lowest-ability bracket. In 2006, the amount allocated to institutions through this mechanism corresponded to about 10% of public funds received by tertiary institutions.

Information provided in Table 4.3 illustrates one of the more pronounced trends in tertiary education around the world over the past decade or more: the shift to allocation mechanisms that are more performance-based. This shift can take several forms including setting aside a portion of funds to be paid on a performance basis; establishing performance contracts between government and institutions; creating competitive funds to stimulate greater innovation, higher quality, and improved management of institutions; and implementing processes in which institutions are paid on the basis of results, not inputs.

*Formula-funding is now well-established in most countries and targeted funds are generally allocated on a competitive basis*

Formula-funding has become the most common basis to allocate block grants or line-item budgets to institutions in participating countries (see Table 4.3). Only in a few instances – historical trends in Australian National Institutes and Mexico's TEIs created before 1997; and negotiations between institutions and educational authorities in some regions of Spain – is a formula not used in allocating block grants and line-item budgets. In a number of countries – Chile, China, Croatia, Estonia, the Netherland, Norway, Poland and the Russian Federation – the basis for the allocation consists of a mix between a formula and historical trends. In both New Zealand and Switzerland, the basis to allocate block grants consists of a mix between a formula and negotiations with government authorities.

In turn, in the vast majority of countries where targeted funding is used, the allocation takes place on a competitive basis. Exceptions exist in the Flemish Community of Belgium (where allocation depends on the evaluation of a teaching development plan and an assessment of performance), Sweden, Switzerland (some funds for universities of applied sciences) and some funds in the Netherlands, where allocation is based on the evaluation of individual applications. Some countries use formula funding for allocating targeted funds (*e.g.* Poland, and Australia in the case of the *Learning and Teaching Performance Fund*), and others use direct negotiations with institutions (*e.g.* some programmes in Portugal) for the same purpose.

There is a great diversity of factors used in funding formulas across countries. As could be expected, criteria related to the size of the institution are dominant: number of enrolled students (in 12 countries), number of first year students (8 countries), number of staff (6 countries), or number of academic staff (4 countries). In Korea the total area of buildings and facilities is also used as a proxy for size. These size factors are also typically weighed by funding coefficients which intend to reflect costs per student by field of study. In a number of countries (*e.g.* Chile, Spain, Sweden), the funding for post-graduate studies is separated from the funding for under-graduate studies. The level of qualifications of academic staff is used as an extra weight in Chile, China, Greece, Poland, Portugal, the Russian Federation and Spain. In Croatia, Japan (for private universities) and in some regions of Spain, the formula for the allocation of public funds takes account of the 'external funds' raised by the institution. In Estonia, Japan (for national universities) and Switzerland an assessment of the extent to which a field of study is considered a priority influences the associated funding. In both Estonia and New Zealand, different levels of study are subject to distinct funding rates. In the Russian Federation, the student-teacher ratio is used as a further criterion in the funding formula as is the number of under-graduate programmes in Chile.

*There is a growing use of performance-based measures in funding formulas*

The shift to allocation mechanisms that are performance-based is also visible in Table 4.3. Countries are now using formula-funding criteria such as the number of degrees awarded or the number of graduates (*e.g.* Flemish Community of Belgium, the Czech Republic, Finland,[70] the Netherlands, Portugal and some regions of Spain), the number of credits accumulated by students (*e.g.* Flemish Community of Belgium, Norway, some regions of Spain, Sweden, universities of applied sciences in Switzerland), the number of students completing each year of study (*e.g.* in some regions of Spain), and average study duration (*e.g.* Portugal and some regions of Spain). Chile and Norway use research indicators (such as the number of indexed journal articles published and the number of on-going research projects in Chile) while Korea uses an assessment of the institution's innovation endeavours. In Australia, the funding formula associated with the *Learning and Teaching Performance Fund* is innovative in the use of student satisfaction surveys (about overall satisfaction and satisfaction with generic skills and the quality of teaching), students' progress and retention rates and labour market outcomes (see Box 8.1 in Chapter 8). Japan further uses the results of a quality evaluation by a review panel in the formula to allocate block grants to national universities.

The case of the Netherlands serves as a good illustration of a funding system which uses both input and output-based measures. Lump sum allocations are based on relatively simple formulas for distribution of financial support among both types of institutions in the binary system ('research-intensive' universities and universities of applied science). Institutions' public budgets for teaching and learning activities are made up of a base funding component, representing 37%, a results component calculated from the number of diplomas, representing 50%, and a component based on the number of first year students, representing 13%.[71] For universities of applied science, total enrolment is used and dropouts are considered as well as students receiving diplomas. Another factor, to improve the efficiency of universities of applied science, is added to the formula to encourage timely completion. If students take more than 4.5 years to graduate a proportionate factor of less than 1.0 is applied to the formula.

A few countries reflect equity objectives in funding formulas, typically through the use of a premium in the funding formula for each student of a given under-represented group. This is the case, for instance, in New Zealand with regard to Māori people, and in Australia with regard to students from a low socio-economic background, remote or rural areas, or with a disability. A weight based on equity objectives is also used in the Flemish Community of Belgium and Japan's national universities (other examples can be found on Table 6.1 in Chapter 6). A few countries also use funding formulas in relation to the regional role of institutions. This is the case in Finland, Japan (*e.g.* a premium for institutions serving rural areas or for accomplished regional impact), and the Russian Federation (*e.g.* additional funding for institutions located in regions with hard climatic conditions). Two countries, Norway and Poland, further use as a funding criterion the number of international student exchanges.

70 As a target number rather than actual.

71 An example worth citing in this context is the unique case of Denmark. In Denmark, public budgets for teaching and learning activities in TEIs are exclusively based on output measures, a mechanism known as the 'taximeter' model. Funding is exclusively based on the number of credits obtained by students each year.

*Formula-based funding and the allocation on a targeted basis have a number of potential advantages but trade-offs exist*

Formula-based funding provides many advantages over alternative methods. In most countries, it has replaced a system in which time and resources were devoted to regulatory compliance. The de-regulation has allowed institutions more flexibility with increased institutional cooperation and innovation. Further, it gives transparency to institutional allocations: the criteria for the distribution of funds are typically clear to all involved and allocation no longer reflect ill-founded historical trends or the lobbying power of given institutions. Another positive feature of formula-based lump sum budgeting is that it is delivered directly to public institutions as a block grant, and the institutions decide on their internal allocation of resources. This gives institutions more flexibility and autonomy than line-item arrangements, enabling them to determine their preferred distribution of funds in accordance with their particular mission.

Targeted funds have the potential to steer institutions towards a better alignment with national economic and social goals. This is the case when funds are allocated on a targeted basis to achieve explicit objectives such as the improvement of the quality of educational programmes, the introduction of innovative curricula, the improvement of management practices, or the development of partnerships with the region where the institution is located.

However, there is an important trade-off between the transparency of funding and the range of funding drivers necessary to improve the alignment with the government's various goals. Broad goals will demand a range of funding mechanisms but that will reduce transparency and risks increasing the transaction costs in the system. A second issue is that government's goals are wide-ranging so it isn't easy to tune the funding drivers to those goals without opening opportunities for perverse incentives.

*A balance between input-based and output-based funding might be needed*

Funding institutions on the basis of enrolments only raises a number of issues. It might encourage institutions to favour quantity of enrolments over quality of courses. Institutions might have the incentive to deliver courses in ways that minimise expenditure (by cutting back quality). Furthermore, it might lead to a tension between being financially viable -- by enrolling as many students as possible in courses of high demand – and maintaining identity – by offering courses aligned with their profile.

In turn, performance-based allocation mechanisms have the potential to bring improvements to institutions' efficiency, for instance, through improved degree completion rates or lower costs of provision. However, performance-based funding mechanisms should be carefully implemented because they can have undesired effects. For instance, if institutions are funded on the basis of degrees awarded or credits accumulated by students, some may be tempted to lower their standards in order to improve their funding. This would require adequate quality assurance mechanisms in place. Another possible effect is to induce risk-avoiding behaviour among academics and administrators leading to an emphasis on outputs that are easily attainable and measurable (*e.g.* effort shifted away from hard-to-measure activities such as the development of creativity and problem-solving attitude). There are other instances in which the pursuit of a goal (*e.g.* improving completion rates by offering remedial courses) may have adverse consequences on another important objective (*e.g.* research activities or public service activities by academics).

One way to address concerns related to the use of performance-based funding is to develop a balanced funding mechanism based on a mix of input and output indicators. In this respect, it is important to note that as long as a number of conditions are met, enrolment-based funding may also provide incentives for improving the quality of programmes as a result of having institutions respond to the needs of students who "vote with their feet" (Jongbloed and Vossensteyn, 2001) (see Section 4.12 for the list of such conditions).

*Attempts to optimise education provision with labour market requirements is an area wrought with difficulties and complexities*

Some countries allocate public resources across programmes or fields of study on the basis of an assessment of labour market needs, including pre-determining the number of publicly-subsidised places at the programme level on that basis (see Chapter 9). Finland has a system of enrolment resource allocation that is supply-driven according to forecast labour market demands. In Estonia, places in tertiary education are publicly subsidised through the commissioning by the State of graduates in particular disciplines. The content of the commission is determined through a negotiating process and seeks to meet the foreseeable need for specialists with tertiary education degrees in the labour market.

Allocating public spending by a labour-market based planning process helps to ensure that public resources are directed towards economically productive fields of study. However, it also raises a number of concerns. Firstly, the level of detail at which it is achievable to optimise educational supply with labour market needs is an issue. Labour markets are volatile and difficult to predict, in particular when the focus is on the knowledge economy where today's cutting edge skills and capacities can be outdated tomorrow. Time lags between an identified labour market need and the ability of the tertiary system to deliver graduates in related areas further complicates matters. Secondly, it is not certain that the concentration of publicly-subsidised places in certain fields will help solve the problem of shortages of qualified applicants for particular targeted occupations – for example, for jobs in teaching or engineering. There can be no guarantee that graduates in supported fields will take up employment in related occupations. Thirdly, supply-driven arrangements are likely to have a potentially distorting effect on student choice. Ideally, one wants students to undertake those programmes which best utilise their talents. However, given the limited number and skewed distribution of publicly-subsidised places, a bright student with limited means may be encouraged to enter a course of study for which he or she has limited interest simply in order to gain a subsidised education. In addition, it might lead to a process of queuing in which students repeatedly seek entry to fields of study with very low acceptance rates and behave strategically, applying and transferring after enrolment.

These complexities might make it more suitable to devise public allocation mechanisms which are student-demand driven. A more effective approach to the problem of lack of supply for certain occupations may be to consider demand-side measures such as bonus payments, bonded scholarships or loan waivers for students who enter such occupations. But some caution is also needed with student-demand led systems. Following student demand too closely at the institutional level can lead to self-defeating cycles in neither the institutions' nor the country's interest. For example, a lack of student interest in certain science and technology fields can lead to departmental cut-backs, loss of staff and quality, and subsequently less demand, despite an acknowledged need for higher quality programmes and more graduates in these fields.

*Linking funding to the qualifications and titles of academic staff can only be justified when there are concerns about the quality of academic bodies*

Linking funding to the qualifications and titles of academic staff has the potential to improve the quality of academic bodies. However, when the quality of the academic body reaches a satisfactory level keeping such link may lead to undesired effects. Such is the case when some academic staff remain attached to an institution well beyond retirement age in order that the institution can benefit financially from their high qualifications even though they might play little or no active part in instructional activities. Similarly, in countries where multiple employment is common, other institutions formally sign up staff with advanced academic titles on a second-employment contract with the purpose of increasing the public subsidy they receive. These academic staff often become simply 'teachers for the books' and may have very limited involvement with their second employers. The main effect of these perverse incentives is to make it more difficult to create new posts and promote younger academic staff.

*A limited number of funding coefficients based on normative costs presents some advantages*

Most countries use a number of funding coefficients to account for differences in the cost of provision across fields of study. Simple funding formulae, which render funding systems more transparent, exist in many countries. For example, the funding formula used in the Czech Republic consists of seven coefficients covering different discipline groupings. The one used in Australia involves 12 funding clusters and in New Zealand it involves 15 categories. Normative costs (as opposed to actual), by calculating what programmes ought to cost using optimal student/faculty ratios and other indices, represent an important improvement over the more traditional approach of using actual costs per student and are regarded as a form of best practice internationally (Salmi and Hauptman, 2006).

*Institutional autonomy over the use of funds is desirable but care is needed on how funds are distributed internally*

The public funding of institutions has been evolving in the direction of greater autonomy for institutions and increased simplicity in granting arrangements. In most countries, institutions now have considerable autonomy in terms of managing their finances, staff and assets such as land and buildings. This gives institutions more flexibility to address their particular needs. However, particular arrangements within institutions for the internal distribution of resources might put at jeopardy the benefits of institutional autonomy over the use of resources. In some countries (*e.g.* Croatia, the Czech Republic, Poland), the autonomous management of funds, including public subsidies, is often the responsibility of the organisational units (faculties) of institutions. This decentralisation of financial management within institutions might have negative implications, since it often leads to disputes between the central administration and faculties and is likely to hinder the strategic development of institutions (*e.g.* creation/closure of organisational units, cross-faculty collaboration). The effective control of budgets by deans and faculties might mean that the signals contained in the government funding formula are not being effectively translated into the internal allocation process within the institutions. In these circumstances, the institution's central administration might lack the authority, means and resources to lead or steer the institution.

### *4.7.2 Funding institutional infrastructure*

Over half of the countries shown in Table 4.3 provide for a budget for capital expenditure in public (or publicly-subsidised) institutions which is fully detached from mechanisms to allocate funds for teaching and learning activities. Only nine countries (Australia, Chile, Finland, Greece, Iceland, the Netherlands, New Zealand, Sweden and Switzerland) integrate capital expenditure in the regular block grant for teaching and learning activities. However, some of these countries provide institutions with extra instruments for funding capital expenditure such as additional funding available for specific projects in Australia, case by case negotiation with government authority for significant capital injections in New Zealand, and loans available from the State in Sweden.

The Netherlands is a good example of a country where institutions benefit from great autonomy in the management of their infrastructure. Several years ago, public institutions were given both ownership and control of their own campuses and capital facilities. Capital expenditures and revenues are part of the lump sum budget, meaning that efficiencies and revenues in this category can be directed toward the operational needs of the institutions. This approach also encourages, at least theoretically, cooperative planning among institutions when constructing new facilities. Institutions can use debt financing when necessary to pay for the facilities.

### *4.7.3 Public funding of private institutions*

Approaches to the public funding of private institutions differ markedly across participating countries (see Table 4.3). In regard to the allocation of block grants or line-item budgets, private institutions receive public funds on a basis similar to public institutions in Chile (only for private institutions which belong to the Council of Rectors), Finland, Iceland, the Netherlands (for publicly-funded private institutions), New Zealand (under current reforms there are now some restrictions), Norway (for a subset of institutions selected by educational authorities), Sweden, and the United Kingdom (where practically all institutions are private and publicly-funded). In Chile, the special 'indirect public funding' stream is also accessible to the entire private sector. By contrast, public funding is not available to private institutions in Greece, Korea, Mexico, Poland, Portugal, the Russian Federation, Spain and Switzerland (and a subset of institutions in Norway, and private independent institutions both in the Netherlands and the United Kingdom). In other countries, block grants are available to private institutions with some restrictions: in the Flemish Community of Belgium for private institutions under public responsibility; in Japan and tertiary professional schools in the Czech Republic at lower levels than those received by public institutions. Some public money is also made available only in exceptional cases to private institutions in Australia and Croatia (in certain fields of study identified as 'national priorities'), China and universities of applied sciences in Switzerland (only in the context of certain government's programmes), the university sector in the Czech Republic (for certain fields of study in not-for-profit institutions), and Estonia (in certain fields of study).

A similar varied picture emerges for the allocation of public targeted funds to private institutions (see Table 4.3). Targeted funds are available to private institutions on a basis similar to public institutions in China, Finland, Japan, the Netherlands (for publicly-funded private institutions), Portugal (for a number of special programmes), Sweden and the United Kingdom. Targeted funds are available to private institutions with some restrictions in Australia (only available through the *Collaboration and Structural Reform*

*Fund*), Flemish Community of Belgium (for private institutions under public responsibility), Chile (for those institutions which belong to the Council of Rectors), Korea (only for some programmes), New Zealand (only for some programmes), Poland (in certain fields of study), Switzerland (only for some programmes) and the Russian Federation (only for some programmes). By contrast, no public targeted funds are available to private institutions in the Czech Republic and Mexico.

Public funds for capital expenditure are more difficult to access by private institutions than block grants or targeted funds (see Table 4.3). In 13 of 23 countries public funds for capital expenditure are not available to private institutions. Only in the Netherlands (for publicly-funded private institutions), Portugal, Sweden and the United Kingdom (for publicly-subsidised private institutions) are public funds for capital expenditure available to private institutions in a way similar to public institutions. In other countries, some public funds for capital expenditure are available to private institutions in special circumstances. This is the case in Australia (limited to a small number of designated institutions), the Flemish Community of Belgium (only for private institutions under public responsibility), Chile (only for private institutions receiving public funds either through a block grant or through the special 'indirect public funding' stream), Japan (for research facilities and amenities for disaster prevention), New Zealand (private institutions receive funds but at a lower rate than public institutions and are not eligible for significant capital injections), Poland (on the basis of ad-hoc governmental decisions), and Switzerland (universities of applied sciences for rent subsidies).

### *4.7.4 Intermediate funding agencies*

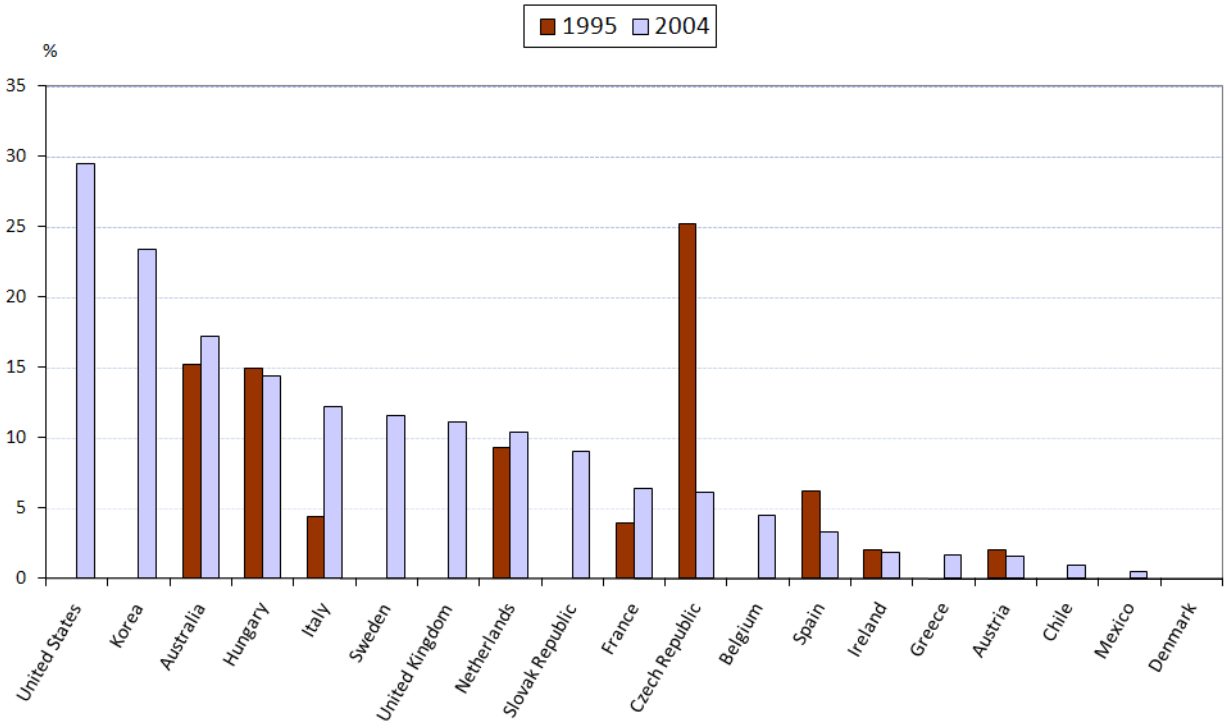
In most countries the public funding of TEIs is the responsibility of government authorities. However, in other countries, intermediate agencies have been created to assume administrative responsibilities in this area. In New Zealand, the government sets the total amount of funding available for tertiary education and defines the broad funding policies. The Tertiary Education Commission (TEC), an intermediate agency, sets the operational rules for funding and allocates the funding to institutions through a set of investment guidance statements. The investment guidance explains the principles that the TEC will use in allocating funding and in particular, how it expects classes of institutions to contribute to the achievement of the priorities of the tertiary education strategy (TES). The TEC uses investment plans, performance monitoring and accountability tools to steer institutions towards the TES priorities. The Tertiary Education Commission further monitors the financial performance of TEIs (see Box 3.5 in Chapter 3). Similarly, the Higher Education Funding Council for England (HEFCE) takes responsibility for distributing public money to universities and colleges in England for higher education teaching, research and related activities; funding programmes to support the development of higher education; and monitoring the financial and managerial health of universities and colleges. The Scottish Funding Council performs a similar role in Scotland across all of tertiary education.

## 4.8 External sources of institutional funding

Figure 4.11 shows the relative proportion of expenditure by private entities other than households on TEIs in 1995 and 2004. In 2004, this proportion exceeded 10% in the Australia, Hungary, Italy, Korea, the Netherlands, Sweden, the United Kingdom and the United States but remained below 2% in Austria, Chile, Denmark, Greece, Ireland and

Mexico. A trend over time across countries does not emerge: in about half of the countries for which data are available, this proportion increased - most notably in France and Italy – while it decreased in the other half of countries, most remarkably in the Czech Republic and Spain.

**Figure 4.11. Relative proportion of expenditure by private entities other than households on TEIs, 1995 and 2004**




*Countries are ranked in descending order of the relative proportion of expenditure by private entities other than households on TEIs in 2004.*

*Note:* See note on Figure 4.5 for a definition of expenditure by "private entities". For Denmark data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. For '2004' data, the reference year for Chile is 2005.

*Source:* OECD (2004; 2007a).

In most countries, institutions do not seem very dynamic in seeking external sources of funding, despite a growing but still incipient tradition of providing services such as industrial training or consulting to businesses or public authorities. Resources raised externally (other than through student fees) typically represent a minor fraction of institutional budgets, which most often reflects insufficient awareness of the potential for diversifying and increasing revenues as well as the lack of drive to build commercial or philanthropic incomes. There are exceptions to this, as illustrated by the situations of Australia, Korea and the United States. Another example is New Zealand where the proportion of income derived from government revenue has gone down from 52 to 39% in universities and from 64 to 60% in polytechnics over the period 1997-2004.

In many countries, governments are attempting to develop the entrepreneurial spirit of institutions. This might end up being a corollary of the adoption of the "third mission",

especially in the context of regional development (see initiative in Korea in Box 4.2). There are various ramifications to this, which include: a significant diversification in the range of funding sources and the income profile of institutions; institutional legal status which enables them to behave entrepreneurially in terms of costing and pricing of activities; budget flexibility; swift decision-making on commercial possibilities; a market-oriented culture and personnel; a strong but flexible education and R&D provision which guarantees excellence as well as responsiveness; a strong competitive urge; and robust intellectual property strategies (see Davies, 1987; Clark, 1997 for more detailed discussions of principles, policies and practice).

**Box 4.2. Targeted funds for regional engagement in Korea**

The *New University for Regional Innovation* (NURI) project is a government funding scheme which aims to increase the capacity of regional universities through collaborations with related organisations such as local administration, businesses and research institutions. Through NURI, the government is investing USD 13 billion over five years (2004-2008) in institutions of 13 cities and provinces. The school affairs committee, local authorities, representatives of business and research institutes, and NGOs participate in NURI to link human resource development in various fields with community development and innovation. 109 out of 241 regional universities are currently participating in the project (123 project teams, 170 000 students).

NURI seeks to assist local TEIs with:

- Attracting and retaining talented human resources in their regions against the dominance of the Seoul capital area.
- Improving educational conditions and programmes to help students acquire relevant occupational skills.
- Building productive partnerships with local authorities, research institutions, and businesses and providing skilled workers and advanced technologies to regions' industry clusters.
- Playing a leadership role in developing and maintaining effective regional innovation systems.

*Sources:* Country Background Report for Korea and OECD (2007b).

## 4.9 Impact of funding approaches on institutional behaviour

This Section reviews the impact of funding approaches on the supply of tertiary education, namely the impact on institutional behaviour in domains such as pricing, aid policies, admission policies, curricular and staffing decisions, programmes offered, quality of the programmes, and the research-teaching balance.

### *The empirical evidence on the impact of funding approaches on institutional strategic behaviour is scarce*

Funding approaches constrain institutional strategic behaviour. Areas of decision typically affected include pricing, institutional financial aid, student intake, course provision, quality of provision, external funding or the research-teaching balance. It happens that empirical evidence about how institutions manage the resulting trade-offs is difficult to come by. Given the interdependencies among these decisions, determining causal linkages is difficult, and much work remains to be done in this area (McPherson and Schapiro, 2006). Most of the related empirical research has focused on the strategic

uses by institutions of student aid provided by entities external to the institution, in particular public bodies.

*There is good evidence that in, some circumstances, institutions make strategic use of publicly-based student financial aid*

There is considerable evidence that institutions, in some circumstances, alter their tuition fee and institutional financial aid policies in response to changes in public student support schemes. Singell and Stone (2007) analyse whether or not Pell grants in the United States tend to be appropriated by universities through increases in tuition - consistent with what is known as the *Bennett hypothesis*.[72] Based on a panel of 4-year 1554 colleges and universities from 1989 to 1996, they find little evidence of the Bennett hypothesis for in-state tuition for public universities. For private universities, however, results indicate that increases in Pell grants appear to be matched nearly one for one by increases in gross (and net) tuition. Results for out-of-state tuition for public universities are similar to those for private universities, suggesting that they behave more like private ones in setting out-of-state tuition. They conclude that institutional responses in these latter cases appear at odds with federal grants-in-aid policy.

Earlier research provides similar indications. McPherson and Schapiro (1991), Turner (1997), and Li (1999) find evidence that tuition rises for at least some types of institutions, but the types of institutions for which the effects are significant and the magnitude of the effects vary substantially across the three studies. By contrast, Rizzo and Ehrenberg (2003), testing the effects of the Pell programme on university tuition with a sample of 91 public research institutions across all states of the United States, find no evidence that public universities increase tuition levels in response to increased federal or state financial aid for students. Long (2004), examining whether the adoption of the HOPE scholarship programme in Georgia, United States, affected tuition decisions of institutions in the state, finds that four-year colleges in Georgia, particularly private institutions, did respond by increasing student charges (such as meals and accommodation). In the most extreme case, colleges recouped approximately 30 percent of the scholarship award. As a result, the institutional responses reduced the intended benefit of the scholarship and increased the cost of college for non-recipients.

More limited evidence is available on whether public student aid increases lead to reductions in institutional aid commitments. McPherson and Schapiro (1991, 1998) investigated this issue in relation to federal student aid in the United States. Although they find no significant relationship between institution-based aid and federal student aid at public institutions, they find that private institutions tended to increase their spending on institution-based aid when federal student aid increased. According to the authors, this is consistent with the notion that the availability of federal aid encourages students of lesser means to go to higher education and encourages institutions to admit them, which draws more heavily on the institution's own aid resources. As reported by McPherson and Schapiro (2006), Turner (1997, 1998) finds that increases in federal aid induced colleges to rearrange their own aid funding in a way that led some of the additional resources

72 In the mid-1980s, the United States Secretary of Education William Bennett made headlines with the assertion that institutions of tertiary education captured the benefits of increases in federal student aid by a combination of raising their tuition and reducing their own aid awards, in what became known as the *Bennett hypothesis* (McPherson and Schapiro, 2006).

provided to (generally low-income) Pell recipients to be redistributed toward middle-income students.

As a policy implication of the available empirical evidence, Salmi and Hauptman (2006) conclude that "… student's eligibility for student financial aid – scholarships, loans, or tax credits – should not be tied to their total costs of attendance to minimise the potential impact of aid availability on institutional pricing strategies". They point out that "…US students and parents can borrow up to the total costs of attendance in the federal student loan programs which may be part of the story why tuition fees in the USA have grown at twice the rate of inflation for more than two decades while student loan availability has grown ten fold in real terms during that same time".

*Funding approaches are likely to affect institutional strategic behaviour at other levels but empirical evidence is scarce*

A number of other strategic decisions are likely to be affected by the framework for institutional funding:

- The size of the student intake as a result of the revenue incentive (especially when funding formulas are tied to student numbers);
- The courses to be offered and the distribution of available places (for instance, as a result of funding categories which differ across fields of study);
- The quality of provision (for instance, input-oriented funding formulas might not provide enough incentives to raise the quality of courses);
- The balance between teaching, research, consultancy, public service and other activities (for example, research might be seen as an important area of income generation).

Little or no empirical results are available on the link between institutional funding and the aspects outlined above. Rolfe (2003) is one of the few studies exploring the effect of higher education funding on institutional strategies. The paper explores the effects of changes in funding arrangements in the United Kingdom, and particularly in tuition fees, on universities and their strategic responses to these changes, using data from interviews conducted in 2000 with 33 senior managers in four universities. The findings suggest that tuition fees have affected universities differently, depending on their position in the higher education market place, and that this is reflected in their strategic responses. Universities' strategies were strongly influenced by the need to reduce costs and to generate income from more diverse sources.

In what concerns the more detailed strategic behaviour, Rolfe (2003) concludes that:

- The size and quality of the student intake was a major consideration for all four universities. Size was a particular issue of concern, because of the direct link with central funding, but quality was a key consideration in universities' strategies towards student recruitment.
- Course provision was a key aspect of university strategy, with all four universities continuously reviewing courses and course modules. Attracting students was not the only concern of universities in setting up new courses. Funding categories for courses were also a major concern, and new courses were being labelled carefully in order to attract higher level funding.

- The quality of provision, and particularly of teaching, was of some concern because it was considered a key area for assessment and important for prospective students' choices.
- Research was seen as an important area of income generation, and one which became particularly important with the introduction of fees, the escalation of costs in such areas as administration and the 'squeeze' on higher education funding. A strategy pursued by all four universities, although to a greater extent by the older two, was to recruit research 'stars' on research-only contracts.

It needs to be emphasised, however, that this is a small scale study whose results are valid in the particular context faced by the four institutions considered. More general answers and findings for the impact of institutional funding on the strategic behaviour of institutions are highly sensitive to institutional and system details.

## 4.10 Funding for students

### *4.10.1 Overall strategies for assisting students*

Student support systems are instrumental in facilitating access by reducing liquidity constraints faced by students. Systems of grants and loans assist students in covering instructional and living costs, alleviating excessive hours spent on part-time work, or disproportionate reliance on family support. They constitute a key element for broadening access to and improving completion of tertiary education.

Table 4.4 provides an overview of country approaches to student support in tertiary education based on the more detailed information given in Tables 4.5 and 4.6. Five major groups of countries emerge. First, both Iceland and Norway base their student support system exclusively on a public Loan Fund. No separate grant scheme is in place but in Norway a proportion of the loan (40%) is converted into a grant if study progress targets are met and in Iceland the public subsidy component of the loan scheme is sizeable (and broadly equivalent to a grant). A second group of countries – Australia, Japan, the Netherlands, New Zealand, Sweden and the United Kingdom – combine a Public Loan Fund with some type of publicly-funded grant scheme, basic universal grants only in Sweden, means-tested grants only in Australia and Japan, both basic universal and means-tested grants in the Netherlands[73] and the United Kingdom, and both means-tested and merit-based grants in New Zealand. In a third group of countries – Estonia, Finland Poland and Portugal – loans provided by commercial banks with public subsidy[74] and/or public guarantee[75] are combined with some type of publicly-funded grant scheme, means-tested in Finland, merit-based in Estonia and both means-tested and merit-based in Poland

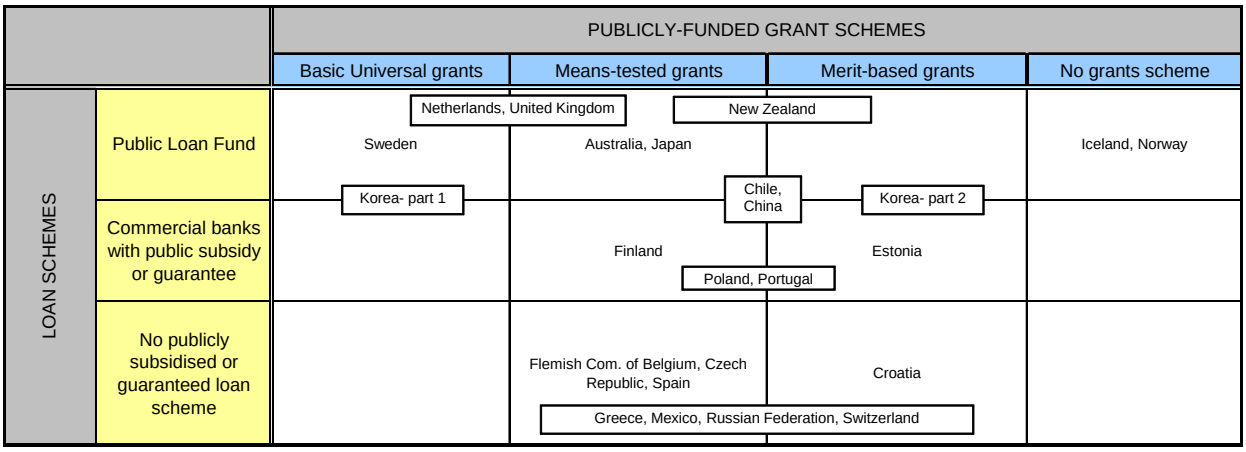
73 In the Netherlands, the basic grant scheme ("basisbeurs") is conditional on the successful graduation of the student. Only upon graduation is the amount made available during the studies converted into a grant. If graduation does not occur, that amount is assumed to be a loan. The complementary means-tested scheme follows the same approach except that the amount awarded in the first year is considered as non-repayable assistance.

74 Interest on the student loan or part of it is paid by a government authority and/or intermediate agency to the lending commercial bank.

75 Consists of an agreement between the lending commercial bank and a government authority and/or intermediate agency in which the State commits to cover the payment of debt if the student defaults.

and Portugal. A fourth group of countries – Chile, China and Korea – offer a wider choice of schemes, loans both through a public loan fund and through commercial banks (with public subsidy and/or public guarantee) and some type of grant scheme (means-tested and merit-based in Chile and China; basic universal and merit-based in Korea). A fifth group of systems – the Flemish Community of Belgium, Croatia, the Czech Republic, Greece, Mexico, the Russian Federation, Spain and Switzerland – have no loan scheme in place and base their student support systems on grant schemes.

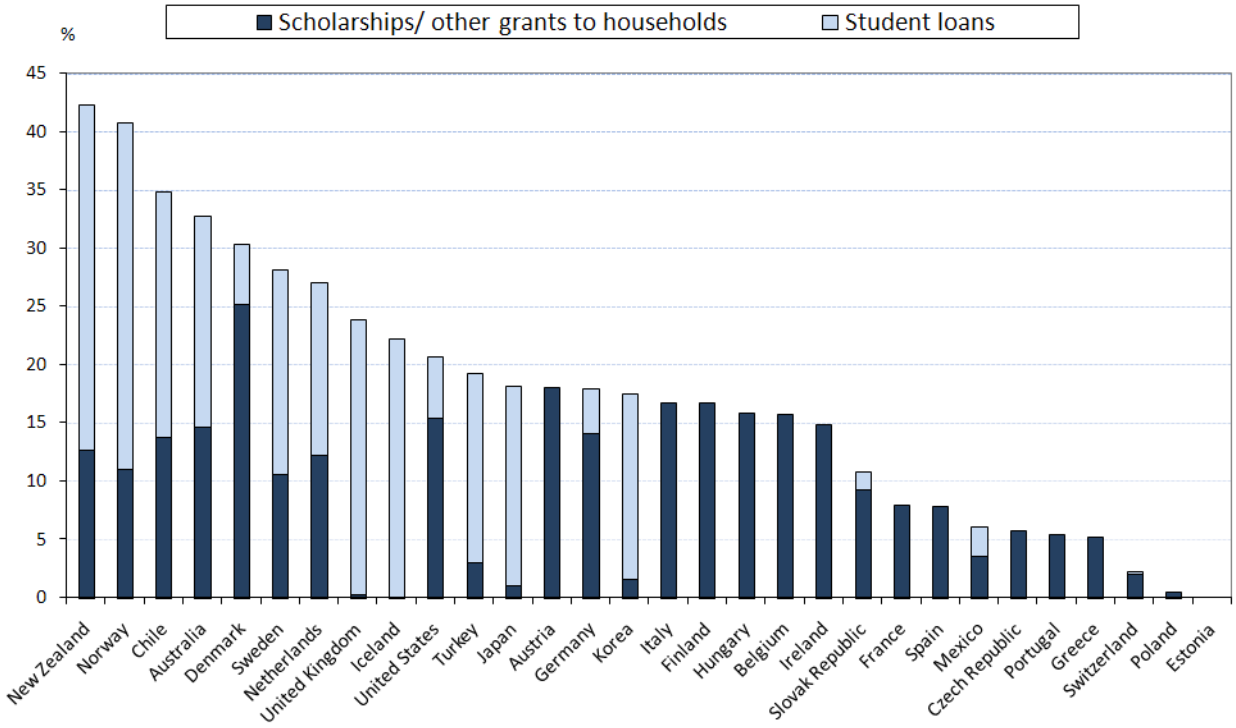
**Table 4.4. Approaches to student support, 2007**




*Notes:* For Norway a proportion of loans can be converted into grants. Conditions and regulations of grants schemes in Japan are at the discretion of TEIs.

Figure 4.12 displays public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education in 2004, specifying the respective importance of grants and loans. It is clear that while some countries put considerable resources into student support systems, others exhibit incipient systems. Among the latter are the Czech Republic, Estonia, France, Greece, Mexico, Poland, Portugal, Spain and Switzerland. By contrast, Australia, Chile, Denmark, Iceland, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States devote over 20% of total public expenditure to public subsidies for financial aid to students. Most of these countries rely predominantly on loan schemes, even if these are associated with different degrees of a public subsidy. Countries with generous grant schemes include Austria, Belgium, Denmark, Finland, Hungary, Ireland, Italy and the United States. As explained earlier, two types of approaches exist: *(i)* universal support systems available to students considered independent of their parents – in these systems, schemes typically do not distinguish on the basis of parental income but rather the student's own condition; and *(ii)* family-based systems where the family is expected to take responsibility for the sustenance of students.

**Figure 4.12. Public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education, 2004**




*Countries are ranked in descending order of the public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education.*

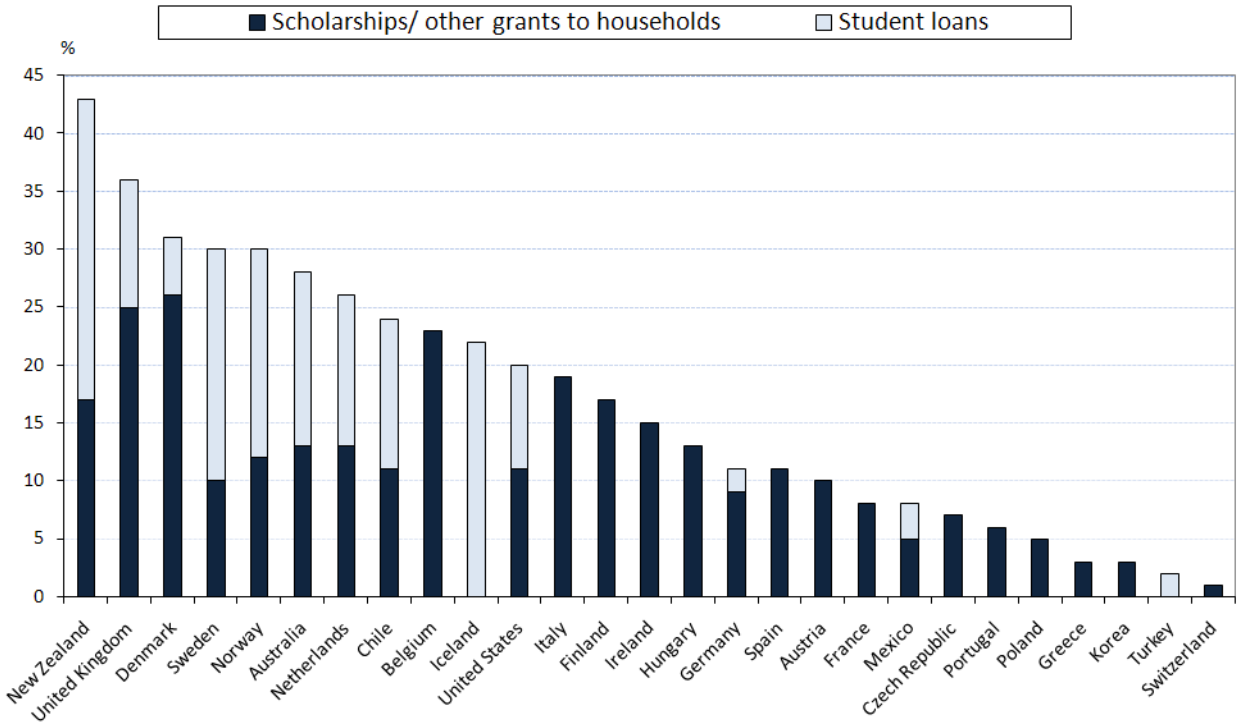
*Note:* Government loans to students are reported on a *gross basis* - that is, without subtracting or netting out repayments or interest payments from the borrowers (students or households). Thus, student loan expenditure represents the total value of loans paid by government to students during the reference year. The cost to government of servicing these loans (*i.e.* interest rate subsidies and the cost of default payments) is not included. Governments also support loans paid to students by private financial institutions (*e.g.* through interest subsidies, the cost of guaranteeing the loans, the cost of default payments). These are *not included* as public subsidies to households but as public transfers to other private entities.

For Iceland and Japan data include part of post-secondary non-tertiary education. For the Slovak Republic data do not include Tertiary-type B education. Data refer to public institutions only for Estonia, Poland and Switzerland. The reference year for Chile is 2005.

*Source:* OECD (2007a).

Figure 4.13 displays the same information as Figure 4.12 for 1998. From 1998 to 2004, student support systems in Australia, Austria, Chile, Germany, Korea, Norway and Turkey expanded considerably while those in Belgium, Spain and the United Kingdom contracted.

**Figure 4.13. Public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education, 1998**




*Countries are ranked in descending order of the public subsidies for financial aid to students as a percentage of total public expenditure on tertiary education.*

*Note:* For the United States data include post-secondary non-tertiary education.

*Source:* OECD (2001).

Figure 4.14 provides an approximation of the degree of financial and/or liquidity constraints faced by tertiary education students in some OECD countries. The proxy used is the ratio between tertiary education costs and resources available for students to finance those costs. The education costs correspond to tuition fees and living costs. Student financing resources are those available through each country's financial aid systems (grants and loans) when available, and also through families' financing capacities, as well as possible revenue from student part-time work (see Oliveira Martins *et al.*, 2007, for further details on the indicator).[76] Countries were grouped according to the categories defined earlier: universal funding systems and family-based funding systems.

Typically, the average ratio of total costs to total available funding is somewhat lower in universal funding systems than in family-based systems, despite tuition fees and living costs often being relatively high. A few countries stand out among family-based systems with costs to financing ratios which are particularly high (*e.g.* Korea, Mexico and Turkey). As could be expected, the ratio of costs to available funding is particularly favourable to students in European Nordic countries (see Box 4.3 for the contribution of a

76 As a rough approximation, families' financing capacities are set equal to the median household disposable income adjusted for family size.

comprehensive student support system to this). However, it is interesting to observe that low tuition fees do not necessarily imply facilitated access to tertiary education from a financing point of view. Financial constraints seem to be lower in some countries with high levels of tuition fees - but good student support systems - such as Australia, New Zealand, the United Kingdom and the United States than in countries with low levels of tuition fees - but incipient student support systems - such as Hungary, Mexico, Portugal and Spain.[77]

**Box 4.3. A comprehensive student support system in Sweden**

Sweden has had a comprehensive public system for study assistance since 1965. As reflected in Figure 4.14, Sweden is the country where students might be considered to face the fewest financial constraints to undertake tertiary education studies. The goal is that each citizen should have access to high quality education regardless of gender, social or economic background, or place of residence. It is also an important instrument for lifelong learning policies. The study assistance system offers grants and loans not only to students in tertiary education but also at other levels of education (for example upper secondary and adult education). The system is administered by The Swedish National Board of Student Aid (CSN) and the cost of the system is covered through the state budget.

Financial assistance to students is provided through a basic universal grant scheme and a public loan fund. The amount is designed to cover living costs as well as study related costs. In 2005, funding levels were as follows: average grant SEK 2 376; maximum loan SEK 4 540, a total of SEK 6 916 per month (about 730 euros). There are possibilities to apply for extra loans to cover certain extra expenses (for example older students, students with children). The financial situation of the parents, spouses or cohabitants of students does not affect the possibilities of receiving study assistance. However, there is a ceiling to the amount students may earn without reducing the amount of grant and loan (49 625 SEK for 20 weeks full-time studies in 2006). The study loan is an annuity loan with a maximum repayment period of 25 years. The loan system is state-funded with special safeguards for the students. For instance, it is possible to apply for a reduction of the annual repayment amounting to 5% of the borrower's annual income. In addition, at the age of 68 outstanding debts are written off.

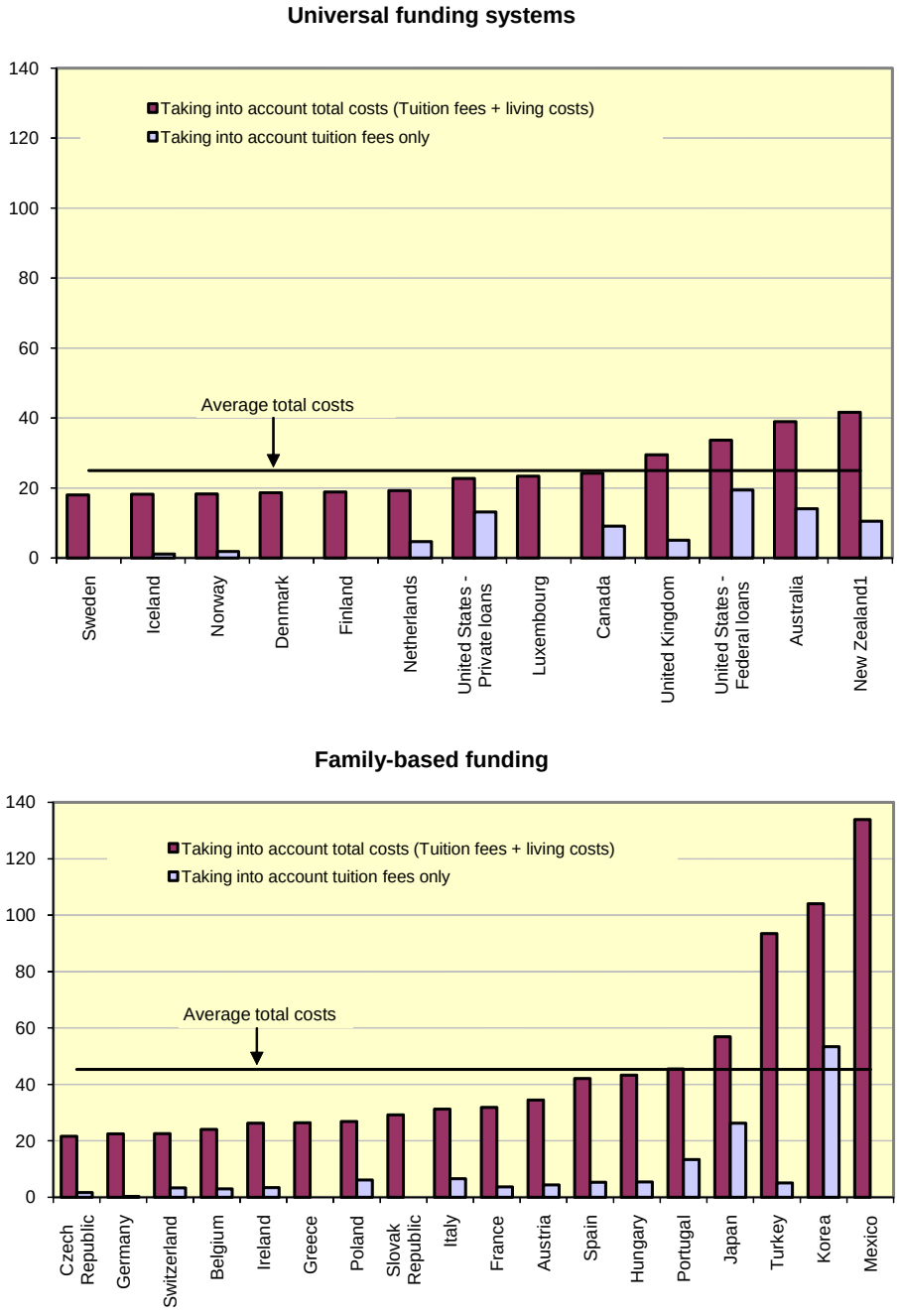
Almost one million Swedes study each year with financial assistance from CSN: about 40 000 at primary level, 650 000 at upper secondary level and over 300 000 at post-secondary level. In 2005, there were nearly 338 000 individuals receiving study assistance for studies at post-secondary level. About 78% of them were also taking study loans.

For more information: www.csn.se

77 Usher and Cervenan (2005) provide a comprehensive analysis of the affordability and accessibility of tertiary education within an international comparative context.

**Figure 4.14. Costs of education relative to available individual funding, 2006**

Costs in percentage of available resources




*Note:* Costs include average of public and private sector's tuition fees and living costs. Available individual funding includes maximum amount of loans and grants, expected earnings for student part-time work and median equivalised disposable income. See Oliveira Martins *et al.* (2007) for methodological details. For the United States, both the amount of loans provided through federal funds and by the main private loan system are included.

1. New Zealand officials indicate that living costs for New Zealand were probably overestimated in the original work used as a source for living costs estimates (Usher and Cervenan, 2005).

*Source:* Reproduced from OECD (2008); OECD computations in Oliveira Martins *et al.* (2007).

### *4.10.2 Non-repayable type of assistance*

Grants systems promote the access of those with greater financial need but also those who underestimate the net benefits of tertiary education as a result of a socio-economic disadvantage (see Section 4.4.4). This is more likely to occur when they live in a low-income family, when parents have low education levels, when the information from which they benefit is poor or when they have fewer school opportunities. The targeted nature of means-tested grants schemes promotes access by more vulnerable groups (Barr, 2004).

*The great majority of countries provide financial aid in the form of grants*

Publicly-funded grant schemes for under-graduate students, which vary greatly in scope and scale across countries, exist in 21 of the 23 countries shown in Table 4.5, the exceptions being Iceland and Norway. However, both these countries have in place a public loan fund with a 'grant' component. In Norway, 40% of the loan is converted into a grant provided student academic progress is satisfactory while in Iceland the public subsidy component of the loan scheme is sizeable. The most common publicly-funded grant scheme consists of means-tested grants, which exist in 17 of the 23 countries. In addition to the two countries mentioned above, means-tested grant schemes do not exist in Croatia, Estonia, Korea and Sweden. Grant schemes which are exclusively merit-based exist in 12 countries – Chile, China, Croatia, Estonia, Greece, Korea, Mexico, New Zealand, Poland, Portugal, the Russian Federation and Switzerland. In Croatia and Estonia, publicly-funded merit-based grants schemes are the only types of public grants available to students. Basic universal grants schemes (for which the allocation is not based in either financial need or academic merit) exist in Korea (for students attending technical colleges only), the Netherlands (as explained earlier, the amount made available during the studies becomes a grant only upon graduation), Sweden, and the United Kingdom (England only).

*Means-tested grants are the most common type of grants*

The conditions and regulations are established by government authorities in 11 of the 17 countries where means-tested grants exist (Table 4.5). Exceptions are when government authorities and tertiary institutions jointly establish such conditions as in China, the Czech Republic (only for the scheme targeted at students living outside the district where the institution is located), Poland, Portugal and the Russian Federation; and when TEIs alone define such conditions as in Japan. Responsibility for the administration of means-tested grants varies considerably more across countries. Some countries give such responsibility to government authorities (*e.g.* Australia, the Netherlands), some to an intermediate agency (*e.g.* Flemish Community of Belgium), and others to TEIs (*e.g.* Portugal). They are also often jointly administrated, for instance, between government authorities and TEIs (*e.g.* China, Mexico, Russian Federation).

Other than a given income-threshold, a number of eligibility criteria are used in means-tested grants schemes. The most common personal eligibility criteria are citizenship/residency requirements (in 11 out of 17 countries) and an age limit. Some countries establish a minimum age to benefit from means-tested grants (*e.g.* 17 in Finland, 18 for the *Student Allowances* scheme in New Zealand, 25 in the *Austudy* scheme in Australia), some establish a maximum age (*e.g.* 26 in the Czech Republic, starting the programme before age 30 in the Netherlands), while others specify an age

range (*e.g.* 16-24 for the *Youth Allowance* scheme in Australia and in Scotland). Another feature of means-tested grants schemes which is common across countries is the need for the student to achieve a minimum academic performance, most often to retain the grant (*e.g.* Chile, Flemish Community of Belgium, Mexico, New Zealand, Portugal, the Russian Federation and Spain). Some countries developed programmes for students who are both financially needy and academically gifted (*e.g.* the *Step Up Scholarships* in New Zealand). Some countries, such as the Czech Republic, also have programmes to provide financial aid to students who live far away from the institution they attend. As regards eligibility criteria related to the type of student enrolment, the most common is attendance of an accredited programme (13 of 16 countries). Other eligibility criteria include being a full-time student (Finland, the Netherlands, Portugal, Russian Federation, England and Scotland), attending a public institution (*e.g.* Mexico, Russian Federation), being enrolled on-campus (*e.g.* Mexico, Russian Federation, England) and not having obtained a prior tertiary degree (*e.g.* Poland, Portugal, Russian Federation , Switzerland).

Further features of means-tested grants schemes include aspects such as selection criteria used if the number of eligible applicants exceeds the number of grants available, criteria used to determine the amount of the grant and the maximum duration a student can receive a grant:

- In 11 of the 17 countries with means-tested grants schemes, all students fulfilling eligibility criteria are provided with a grant. In the remaining systems – China, Greece, Mexico, Poland, Spain and Switzerland – a number of criteria exist to select among the applicants which exceed the number of available grants. The most common is the extent of the financial need of the applicant (in all the systems cited above except Northern Ireland). Other criteria such as academic merit (Mexico, Spain, Northern Ireland), marital status or number of children (Greece) and disability (Greece and Spain) are also used.
- A diverse range of criteria exist to determine the amount of the grant. The amount is fixed and identical for each grant recipient only in the Flemish Community of Belgium and Chile. In the other countries, the amount of the grant depends on the extent of the financial need (13 of 17 countries), living with parents or independently (6 countries), being financially dependent or independent of parents (5 countries), marital status (4 countries), having children (5 countries), academic year attended (Mexico and England), disability (Poland and Portugal), field of study (Northern Ireland), academic merit (Russian Federation), academic performance threshold (in New Zealand and Northern Ireland), belonging to an under-represented group (Russian Federation) and, for New Zealand, whether the student has a dependent partner, cost of living in particular regions, and age.
- There is a maximum duration a student can receive a grant in each of the countries providing means-tested grants. The stricter countries - China, the Czech Republic, Greece, Mexico, the Netherlands, Poland, Spain, Switzerland and England and Northern Ireland - make the maximum duration equivalent to the duration of the programme. Other approaches include 6 or 12 months more than the duration of the programme (Australia), 1 year more than the duration of the programme (Flemish Community of Belgium, Finland, Scotland and Wales), 1.4 times the duration of the programme (Chile), 5 years (Russian Federation) or 200 weeks (New Zealand).

Table 4.5 **Student support: general grant schemes, 2007**

| | Types of national general grant schemes available to students | Who is responsible for the delivery of grant schemes? | Who defines the conditions and regulations? | Eligibility criteria of grant schemes | | Characteristics of grants | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Personal eligibility criteria | Eligibility criteria related to the type of enrolment | Selection criteria used if the number of eligible applicants exceeds the number of grants available | Criteria used to determine the amount of grants | Maximum duration a student can receive a grant |
| Australia[1] | Means-tested grants *Youth Allowance* | Government authorities | Government authorities | Citizenship/Residency conditions; Age limit (16/24); Income threshold | Accredited TEI or programme | *a* | Financial need; Living with parents/independently; Being financially dependent/independent from parents; Marital status; Having children | Duration of the programme + 6 or 12 months |
| | Means-tested grants *Austudy* | Government authorities | Government authorities | Citizenship/Residency conditions; Age limit (25+); Income threshold | Accredited TEI or programme | *a* | Financial need; Having children; Marital status | Duration of the programme + 6 or 12 months |
| Belgium (Flemish Community) | Means-tested/ Merit-based grant | Intermediate agency | Government authorities | Citizenship conditions; Income threshold; Academic progression | Accredited study programmes or bridging programmes | *a* | *a* | Duration of the programme + 1 year |
| Chile | Means-tested grants | Government authorities; intermediate agency[2] | Government authorities | Citizenship conditions; Income threshold; Academic performance threshold | Accredited TEI (either public or private) | *a* | None | Duration of the programme + 40% |
| | Merit-based grants | Government authorities | Government authorities | Academic performance threshold | Teacher education programme | Academic merit | Academic merit | Duration of the programme + 40% |
| China | Means-tested grants | Government authorities; TEIs | Government authorities; TEIs | Citizenship conditions; Income threshold | Accredited TEI or programme | Financial need | Financial need | Duration of the programme |
| | Merit-based grants | TEIs | TEIs | Academic performance threshold | Accredited TEI or programme | Academic merit | Field of study | Duration of the programme |
| Croatia | Merit-based grants | TEIs | TEIs | Citizenship conditions; Academic performance threshold | Full-time; Public TEI; Accredited TEI or programme | Academic merit | Tuition costs | Duration of the programme[3] |
| Czech Republic | Means-tested grants | Government authorities; TEIs | Government authorities | Age limit (maximum 26); Income threshold | Domestic TEI; Accredited programme; ISCED 5A and 6 levels only | *a* | Financial need | Duration of the programme |
| | Means-tested grants (accommodation) | Government authorities; TEIs | Government authorities; TEIs | Living outside district where TEI is located | Domestic TEI; On-campus programme; Accredited programme; ISCED 5A and 6 levels only | *a* | Distance from the location of the TEI[4] | Duration of the programme + 1 year |
| Estonia | Merit-based grants | TEIs | Government authorities; TEIs | Academic performance threshold | Full-time | Financial need; Academic merit; Disability; Having children | None | Duration of the programme |
| Finland | Means-tested grants | Government authorities; intermediate agencies; TEIs[5] | Government authorities | Citizenship conditions; Income threshold; Age limit (17+) | Full-time; Accredited TEI or programme | *a* | Financial need; Being financially dependent on parents; Living with parents/independently; Marital status | Duration of the programme + 1 year |
| Greece | Means-tested grants | TEIs; intermediate agency | Government authorities | Income threshold | None | Financial need; Marital status; Disability; Having children | Financial need | Duration of the programme |
| | Merit-based grants | Intermediate agency | Government authorities | Academic performance threshold | None | Academic merit | Academic merit | Duration of the programme |
| Iceland[6] | None | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Japan | Means-tested grants | Government authorities; TEIs | TEIs | At the discretion of TEIs | At the discretion of TEIs | At the discretion of TEIs | At the discretion of TEIs | At the discretion of TEIs |
| Korea | Basic universal grants *Technical college work-study programme* | Government authorities; intermediate agencies | Government authorities | Citizenship conditions | Full-time; On-campus programme | Enrolment in a technical college | *a* | Duration of the programme |
| | Merit-based grants *Natural science and technology grants and President science grants* | Government authorities; intermediate agencies | Government authorities | Citizenship conditions; Academic performance threshold; Specific field of study | Full-time; On-campus programme | **Natural science and technology grants:** Academic merit; Field of study; Belonging to an under-represented social group **President science grants**: Academic merit; Field of study | *a* | Duration of the programme |
| | Merit-based grants for specific group *NURI grants*[7] | Government authorities; intermediate agencies | Government authorities | Citizenship conditions; Being part of the NURI project | Full-time; On-campus programme | Academic merit; Field of study | *a* | Duration of the programme |
| Mexico | Basic universal grants (only in public institutions not charging tuition fees) | TEIs | TEIs | Citizenship conditions | Public TEI; On-campus programme | Academic merit | None | Duration of the programme |
| | Means-tested grants | Government authorities; TEIs | Government authorities (federal/state authorities) | Income threshold; Academic performance threshold; Belonging to an under-represented social group | Public TEI; On-campus programme; Accredited programme | Financial need; Academic merit | Academic year attended | Duration of the programme |
| | Merit-based grants | Government authorities; TEIs | Government authorities; TEIs | Income threshold; Academic performance threshold | None (only available to 5% of the students within a private TEI) | Academic merit; Field of study | Financial need; Academic merit; Academic year attended | 5 years |
| Netherlands | Basic universal grants | Government authorities | Government authorities | Residency conditions; Age limit (starting the programme before 30) | Full-time; Accredited programme (at either a public or private TEI) | *a* | Living with parents/independently | Duration of the programme |
| | Means-tested grants | Government authorities | Government authorities | Residency conditions; Age limit (starting the programme before 30); Income threshold (parental) | Full-time; Accredited programme (at either a public or private TEI) | *a* | Living with parents/independently; Income of parents | Duration of the programme |
| New Zealand | Means-tested grants *Student allowances* | Government authorities | Government authorities | Citizenship/Residency conditions; Age limit (18+); Income threshold (parental for students aged under 25 years); Academic performance threshold (to retain the student allowance) | Accredited TEI or programme (either public or private) | *a* | Financial need; Living with parents/independently; Having children; Cost of living in particular regions; Having dependent partner; Age; Academic performance threshold | 200 weeks (with some exceptions) |
| | Means-tested and merit-based grants *Step Up Scholarships* | Government authorities | Government authorities | Age limit (16/24); Academic performance threshold; Eligibility to student allowance; Course fees higher than NZ$3,000 per year | Academic year attended (1st year); Field of study | Academic merit; Other cost to undertake studies; Socio-economic status of secondary school attended | Field of study | Duration of the programme |
| | Merit-based grants *Bonded Merit scholarships* | Government authorities | Government authorities | Citizenship/Residency conditions | Full-time; Academic year attended (must be in first bachelor degree for a minimum of 32 weeks, and completed first year full-time the year before with a B average) | Academic merit | Uniform grant (exception can be made if the tuition fees are higher than the standard amount) | 4 years |
| | Merit-based grants *Enterprise Scholarship - undergraduate portion* | Government authorities | Government authorities | Citizenship/Residency conditions; Academic performance threshold; Prerequisite degree | Accredited TEI or programme (either public or private); Partly funded by a private company; Qualifications must have a research component | Academic merit; Excellence of proposed project; Potential benefit to the country; Involvement of a company; TEI support | Field of study | Between 6 months and 1 year |
| | Grant scheme based on field of study *Teacher scholarship* | Government authorities | Government authorities | **Early Childhood Education**: Citizenship/Residency conditions; Income threshold **Māori Medium Education**: University entrance qualification; Māori language proficiency **Secondary School Education**: University entrance qualification | Approved teaching programme | **Early Childhood Education**: Area with a high demand for teachers; Academic merit **Māori Medium Education**: no limit on the number of grants **Secondary School Education**: All students who meet the eligibility criteria and complete a satisfactory interview will receive a scholarship. | None | Maximum of three years of full-time study |

Table 4.5 **Student support: general grant schemes, 2007** (continued)

| | Types of national general grant schemes available to students | Who is responsible for the delivery of grant schemes? | Who defines the conditions and regulations? | Eligibility criteria of grant schemes | | Characteristics of grants | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Personal eligibility criteria | Eligibility criteria related to the type of enrolment | Selection criteria used if the number of eligible applicants exceeds the number of grants available | Criteria used to determine the amount of grants | Maximum duration a student can receive a grant |
| Norway[9] | None | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Poland | Means-tested grants | Government authorities; TEIs | Government authorities; TEIs | Citizenship conditions; Income threshold | Domestic TEI; No prior tertiary degree | Financial need | Financial need; Being financially dependent/independent from parents; Marital status; Having children; Level of disability | Duration of the programme |
| | Merit-based grants | Government authorities; TEIs | Government authorities; TEIs | Citizenship conditions; Academic performance threshold | Domestic TEI | Academic merit | Academic merit | Duration of the programme |
| Portugal | Means-tested grants | TEIs | Government authorities; TEIs | Citizenship conditions (including EU students and students belonging to a country with a bilateral agreement); Income threshold; Academic performance threshold | Full-time; Accredited TEI or programme (either public or private); Domestic TEI; No prior tertiary degree | *a* | Financial need; Living with parents/independently; Being financially dependent/independent from parents; marital status; Having children; Disability | First cycle + 2 years |
| | Merit-based grants | TEIs | Government authorities | Academic performance threshold | Full-time; Accredited TEI or programme (either public or private); Domestic TEI | At the discretion of TEIs | Academic merit | At the discretion of TEIs |
| Russian Federation | Means-tested grants *State/municipal "academic scholarships"* | Government authorities; TEIs | Government authorities; TEIs | Academic performance threshold | Full-time; Public TEI; On-campus programme; No prior tertiary degree | *a* | Academic merit; Financial need; Belonging to an under-represented social group[10] | 5 years |
| | Merit-based grants *Special presidential scholarships and Governmental scholarships* | Government authorities; TEIs | Government authorities | Citizenship conditions; Academic performance threshold; Knowledge of a foreign language (for students studying abroad) | **Special presidential scholarships:** Accredited TEI (public and private) **Governmental scholarships:** Full-time; Public TEI | **Special presidential scholarships**: Field of study; Academic merit **Governmental scholarships**: Field of study; Academic merit; Academic year attended (3rd year) | Enrolment in a domestic TEI or abroad | 1 year |
| | Merit-based grants *Higher academic and nominal scholarships* | Government authorities; TEIs | Government authorities; TEIs | Academic performance threshold | Full-time; Public TEI; On-campus programme; No prior tertiary degree | Academic merit | Academic merit | 1 year |
| Spain | Means-tested grants | Government authorities; TEIs | Government authorities | Citizenship conditions; Income threshold; Academic performance threshold | Accredited TEI or programme; No prior tertiary degree | Financial need; Academic merit; Disability | Financial need | Duration of the programme |
| Sweden | Basic universal grants | Intermediate agencies | Government authorities (national guidelines); Intermediate agency (specific schemes) | Citizenship/Residency conditions; Age limit (maximum 54); Income threshold; Academic performance threshold | Accredited TEI | *a* | Uniform grant (extra for students having children) | Maximum of 240 weeks |
| Switzerland | Means-tested grants (only for universities and federal institutes of technology) | Government authorities (at the regional level)[11] | Government authorities (at the regional level)[11] | Citizenship conditions; Income threshold; Age limit[11] | Accredited TEI or programme; No prior tertiary degree[11] | Financial need[11] | Financial need[11] | Duration of the programme[11] |
| | Merit-based grants (only for federal institutes of technology) | TEIs | TEIs | Academic performance threshold | Accredited TEI or programme; No prior tertiary degree | Financial need | Financial need | Duration of the programme |
| United Kingdom (Eng.) | Basic universal grants | Intermediate agencies | Government authorities | Citizenship conditions; Income threshold | Full-time; Publicly-funded TEI; Accredited TEI or programme (private); Domestic campus programme; No prior tertiary degree | *a* | Academic year attended | Duration of the programme |
| | Means-tested grants | Intermediate agencies | Government authorities | Citizenship conditions; Income threshold | Full-time; Publicly-funded TEI; Accredited TEI or programme (private); Domestic TEI; On-campus programme; No prior tertiary degree | *a* | Financial need; Academic year attended; Living with parents/independently; Being financially dependent/independent from parents; Marital status; Having children | Duration of the programme |
| United Kingdom (N.Irl.) | Means-tested grants | Government authorities | Government authorities | Citizenship conditions; Age limit (18+); Income threshold | Publicly-funded TEI | *a* | Academic merit; Field of study; Being financially dependent/independent from parents | Duration of programme |
| United Kingdom (Scot.) | Means-tested grants | Government Authority (agency of the Executive) | Government Authority (agency of the Executive) | Citizenship conditions; Age limit (16/24); Income threshold | Full-time | *a* | Financial Need; Living with parents/independently; Being financially dependent/independent from parents | Duration of the programme + 1 year |
| United Kingdom (Wal.) | Means-tested grants | Government authorities; intermediate agencies | Government authorities | Citizenship conditions; Income threshold | Accredited TEI or programme; No prior tertiary degree | *a* | Financial need | Duration of the programme + 1 year |

***Definitions:*** This table addresses existing national policies regarding student publicly-funded grant schemes provided to under-graduate students (ISCED level 5) attending public or private institutions. Grant schemes funded from private sources (such as grants awarded by foundations) and grants provided to post-graduate students are not considered. This table focuses on 'national general grant schemes'. With the exception of those schemes directed at financially needy students, it does not cover the range of targeted grant schemes aimed at supporting the enrolment of members of under-represented groups (*e.g.* indigenous groups, ethnic minorities, immigrants, students from rural and isolated areas and disabled students). Such targeted grants schemes, distinct in that membership of an under-represented group is necessary for gaining access to them, are considered in Table 4.6.
The term 'grant' refers to financial support awarded to a student that does not have to be repaid. Tuition allowances and tuition waivers should be considered as grants. However loans that are convertible into grants should be considered as loans (these are considered in Table 6.1 of Chapter 6).
*Basic universal grants* refers to grants available to students who meet basic and general eligibility criteria (*e.g.* age, citizenship, type of enrolment). The allocation of such grants is not linked to financial need, academic merit or other more specific criteria. They are 'universally' available to students provided that these meet the basic eligibility criteria.
*Means-tested grants* refers to grants allocated on the basis of financial need (with or without an income threshold among the criteria for eligibility). Tuition waivers for financially needy students should be considered as 'means-tested grants'.
*Merit-based grants* refers to grants allocated on the basis of academic merit.
*Delivery of grants* refers to the identification of students who receive a grant, the payment of the grant and related administrative responsibilities.
*Conditions and regulations of grants* refers to the eligibility and selection criteria, and the characteristics of the grant (*e.g.* the amount).
*Eligibility criteria* refers to the criteria that students need to meet to become eligible for a grant. Eligibility criteria are specific to the candidate (*i.e.* criteria that need to be met regardless of the characteristics of other candidates) and are not used to compare characteristics of different eligible students. Eligibility criteria need to be met in order for the student to apply to the grant scheme.
*Selection criteria* refers to the criteria used to compare characteristics of different eligible students in order to select those being conferred a grant when the budget for the grant scheme does not permit each eligible student to receive a grant.

***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. An intermediate agency (JUNAEB) provides funding to cover students' expenses (*i.e.* food allowances and general expenditures).
3. Additional years are at the discretion of TEIs.
4. Additional criteria to determine the amount of the grants are at the discretion of TEIs.
5. The Social Insurance Institution is responsible for granting financial aid in co-operation with educational institutions.
6.There are no national general grant schemes, but only public loans available to all students. See Table 4.6.
7. New University Regional Innovation (NURI) intends to stimulate the development of provincial/regional institutions, specialization within the tertiary system, and linkages with surrounding communities.
8. In the Netherlands, the basic grant scheme ("basisbeurs") is conditional on the successful graduation of the student. Only upon graduation is the amount made available during the studies converted into a grant. If graduation does not occur, that amount is assumed to be a loan. The complementary means-tested scheme follows the same approach except that the amount awarded in the first year is considered as non-repayable assistance.
9. Loans are convertible into grants (up to 40% of the total amount borrowed) if study progress requirements are met. See Table 4.6.
10. It is at the discretion of the TEI to raise the amount of the grant.
11. The basic universal grant scheme is a responsibility of the canton, and therefore eligibility criteria and characteristics of basic universal grants vary by canton.

***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.

As reflected in Figure 4.12, the scale of grants schemes varies considerably across countries. In Portugal, government policy has notionally targeted the means-tested grants for tuition and living costs to the 15-25% of students most in need. While 29% of students receive some support, including those who receive only a waiver of their tuition fees, only 10% obtain income support from the state. The amount of the grant for living costs is modest by comparison with other European Union countries, and is intended as a supplement to family support, rather than a replacement of it. A student is not expected to survive on the state support alone. By contrast, in New Zealand, the Student Allowances scheme is a complement to the public loan scheme which covers a greater share of the student population. It is a means-tested grants scheme targeted at promoting the participation of full-time students from lower socio-economic backgrounds. There is a range of different allowance types depending on individual circumstances: single students under 25 are subject to a parental income test to determine their entitlement; all student allowances applicants are subject to a personal income test; there are adjusted rates for student allowance recipients with dependents; and student allowance recipients who are not living with their parents may also qualify for an accommodation benefit. The scheme provides every tertiary student with a 200-week lifetime entitlement, subject to eligibility criteria. In 2004, 72 000 students or 16% of all domestic students received these allowances.

*Basic universal grants schemes exist in a few countries*

The basic universal grants schemes available in the Netherlands, Sweden, and the United Kingdom (England and Scotland), impose fewer restrictions for students to access them (see Table 4.5). As explained earlier, in the Netherlands, the amount made available only becomes a grant upon graduation. Conditions and regulations are the responsibility of a government authority, and eligibility criteria tend to be limited to citizenship conditions and age (*e.g.* starting the programme before age 30 in the Netherlands; maximum of 54 in Sweden). However, it is checked that the student does not have income above a certain threshold (*e.g.* Sweden and England), and maintains adequate academic progress (*e.g.* Sweden). The amount of the grant is uniform in Sweden (except for extra funding for child support), depends on whether the student lives with parents or independently in the Netherlands, and on the programme's year attended in England. In Korea a work-study programme is universally available to students enrolled in technical colleges.

*Some countries provide grants on the basis of academic merit*

Publicly-funded merit-based grant schemes exist in 12 of the 23 countries shown in Table 4.5: Chile (for teacher education programmes only), China, Croatia, Estonia, Greece, Korea, Mexico (for 5% of students enrolled in accredited programmes of private institutions, as a public requirement imposed on private institutions), New Zealand (*Bonded merit scholarships* and under-graduate portion of *Enterprise Scholarship*), Poland, Portugal, the Russian Federation and Switzerland (only for federal institutes of technology). Government authorities exclusively define the conditions and regulations of these grant schemes in Chile, Greece, Korea, New Zealand, Portugal and for half of such schemes in the Russian Federation (the *Special Presidential* scheme and the Governmental scholarships). TEIs exclusively set the conditions under which these grants are conferred to students in China, Croatia and Switzerland. In Estonia, Mexico and Poland TEIs and government authorities jointly define the conditions and regulations for

merit-based schemes. In Croatia and Estonia merit-based grants are the only types of grants available to tertiary students while in Poland they are also dominant within the student support system. In these three countries, academic performance is the dominant eligibility and selection criterion. Financial need is taken into account as a selection criterion if the number of eligible applicants exceeds the number of grants available in Estonia and Switzerland and to determine the amount of the grant in Switzerland. In Korea, merit-based grants schemes also have their importance but only in a number of fields of study. In other countries, merit-based grants play a marginal role. This is the case in Chile (only for teacher education programmes), China, Greece, Mexico (for 5% of students within accredited programmes in private institutions), New Zealand (in the context of small programmes), Portugal and Switzerland.

Conferring grants solely on the basis of academic merit raises concerns. Such a use of public funds is questionable, since no social purpose seems to be achieved: on the face of it, it is quite unlikely that any academically gifted students who are not in financial need would decide not to attend tertiary education without a merit-based grant. Thus these public funds would achieve better social results if they were only used to facilitate the access to tertiary education of academically talented and financially needy students. In countries where grants conferred on a merit-basis only are common, such as Eastern European countries, a reliance on pure academic merit is seen as the only proper criterion for student selection and financial support. Unfortunately, merit is never pure: in every school system the opportunity to acquire the highest grades is not equally distributed (see Chapter 6). A society which wishes to make the most of its talents needs to balance the demand for merit with the imperative of equity, especially in deciding which students to admit to its most sought-after courses and which students to subsidise.

*Giving institutions great discretion over the rules and regulations of public grant schemes raises concerns*

The administration of publicly-supported grants schemes is the responsibility of individual TEIs in some countries. Typically, institutions receive ear-marked public subsidies for student support, including an amount to cover the administrative cost of managing the programmes. In some cases, institutions establish the detailed rules and regulations for each programme. For instance, they define the criteria for granting and renewing student support and the amount of individual grants. This raises the fundamental concern that the institution might allocate public funds for grants in the pursuit of its own interests, which are not necessarily aligned with social goals. Specifically, there is a strong incentive for the institution to confer grants on the basis of merit, so as to attract the academically most qualified students, whereas social goals would favour the distribution of grants on the basis of financial need.

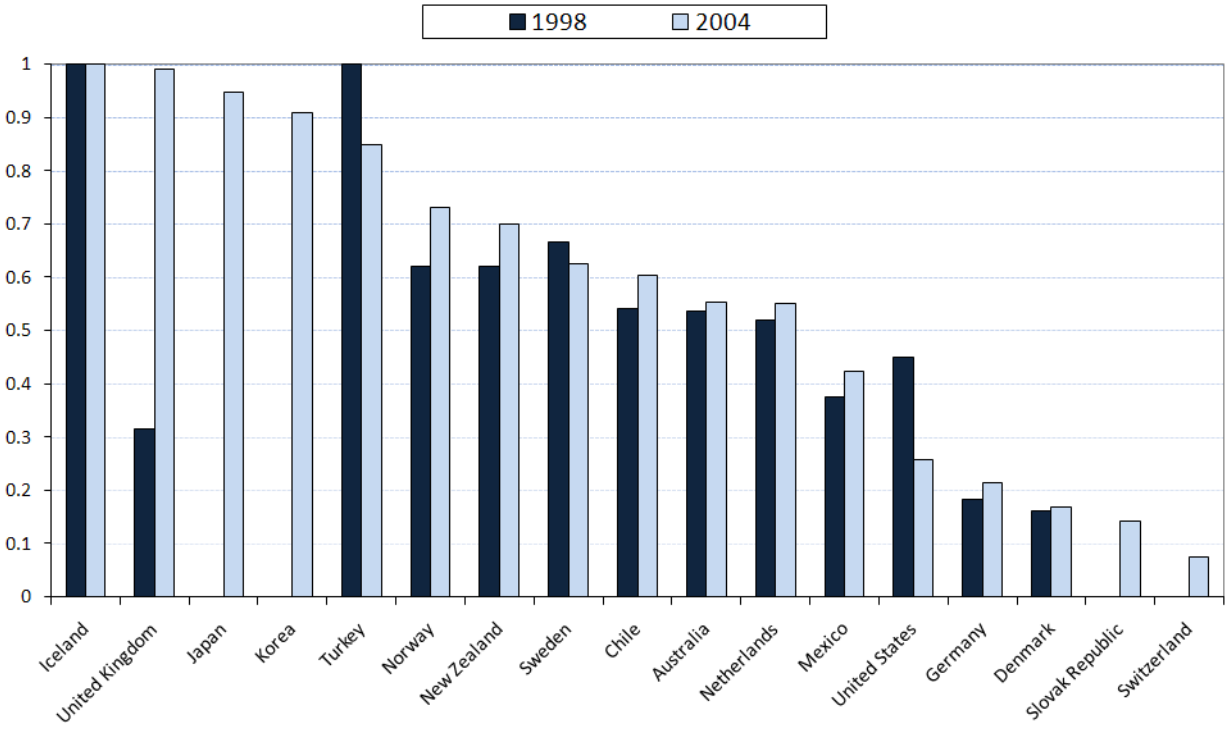
### *4.10.3 Repayable type of assistance*

*Loans have grown in importance in student support systems*

Figure 4.15 shows the proportion of loan-based aid among public subsidies for financial aid to students in tertiary education in 1998 and 2004. The figure reveals that in 9 of the 13 countries for which data are available for both years, the proportion of loan-based aid increased (in Iceland it remained constant). This trend was particularly marked in the United Kingdom and important in Chile, Mexico, Norway and New Zealand. Over

this period the relative importance of loan schemes in student support decreased only in Sweden, Turkey and the United States.

**Figure 4.15. Proportion of loan-based aid among public subsidies for financial aid to students in tertiary education, 1998 and 2004**




*Countries are ranked in descending order of the proportion of loan-based aid among public subsidies for financial aid to students in tertiary education for 2004.*

*Note:* See Note in Figure 4.12 concerning how expenditure on loans is accounted for.

For Iceland and Japan 2004 data include part of post-secondary non-tertiary education. For the Slovak Republic 2004 data do not include Tertiary-type B education. For Switzerland data refer to public institutions only. The '2004' reference year for Chile is 2005. For the United States 1998 data include post-secondary non-tertiary education.

*Source:* OECD (2001; 2007a).

### *A diversity of loan schemes exist in participating countries*

Publicly-subsidised and/or guaranteed loan schemes for under-graduate students, which vary greatly in scope and scale across countries, exist in 15 of the 23 countries shown in Table 4.6. Loan schemes of this nature are not available to students in the Flemish Community of Belgium, Croatia, the Czech Republic, Greece, Mexico, the Russian Federation, Spain and Switzerland. Eight countries provide loans to students exclusively through a public Loan Fund (Australia, Iceland, Japan, the Netherlands, New Zealand, Norway, Sweden and the United Kingdom), four other provide loans exclusively through commercial banks with a public subsidy or public guarantee (Estonia, Finland, Poland and Portugal), while Chile, China and Korea provide loans both through a public

Loan Fund and with public subsidies and/or guarantees to loans made available by commercial banks.[78]

*A number of countries have established public Loan Funds*

In the 11 countries that have established a public Loan Fund the administrative responsibilities lie within government authorities in 3 countries (Korea, New Zealand and Sweden), within an intermediate agency in 4 countries (Iceland, Japan, the Netherlands and Norway), are shared by tertiary institutions and government authorities in Australia and Chile, are shared by government authorities and intermediate agencies in the United Kingdom and are shared between tertiary institutions and intermediate agencies in China (see Table 4.6). In Chile each university has a Loan Fund, which is funded by repayments and government's transfers; however, institutions delegate to the government the administration of the loan funds. Repayment plans, for loans provided through public Loan Funds, are income-contingent in Australia, Chile, China, Iceland, New Zealand and the United Kingdom and of a mortgage type in Japan, Korea, the Netherlands, Norway and Sweden. In both the Netherlands and Norway, repayments can be made income-contingent at the student request. In Sweden repayments can also be made income-contingent if graduates face financial difficulties.

Countries with public Loan Funds exhibit a wide range of policies in regard to interest subsidies. Chile, the Netherlands and Sweden do not subsidise loan interest either during the course of studies or during the repayment period. In these cases, students benefit from the government's borrowing rate which is typically lower than that proposed by commercial banks. By contrast, the loan interest is publicly subsidised during both the period of studies and the repayment period in Australia, New Zealand (for individuals living in the country) and the United Kingdom. In another group of countries – China, Iceland, Japan, Norway – students are granted an interest subsidy during the period of studies and: *(i)* an interest subsidy both during the grace period following completion of studies and when interest exceeds 3% in Japan; *(ii)* a need-based interest subsidy during the repayment period in Iceland; *(iii)* no interest subsidy but a loan guarantee during the repayment period in Norway; and *(iv)* no subsidy during the repayment period in China. Finally, in Korea, there is a need-based interest subsidy during the course of studies and the grace period following the completion of studies.

78 Salmi and Hauptman (2006) provide a typology of student loan models.

Table 4.6 **Student support: loan schemes, 2007**

| | Types of national loan schemes available to students | Who is responsible for the delivery of loans? | Repayment plan used | Public subsidies | | Eligibility criteria of loan scheme | | Characteristics of loans | | Repayment | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Is interest subsidised during the course of studies? | Is interest subsidised during the repayment period? | Personal eligibility criteria considered | Eligibility criteria related to the type of enrolment | Criteria used to determine the amount a given student can borrow | Maximum duration a student can borrow | Does a grace period exist after the end of studies? | Under which conditions is loan forgiveness possible? |
| Australia[1] | Loans provided by a public Loan Fund (HECS-HELP)[2] | Government authorities, TEIs | Income-contingent | Yes, in all cases (only indexation)[3] | Yes, in all cases (only indexation)[3] | Citizenship conditions; Residency conditions[4] | Government subsidised place at a TEI | Cost of the academic programme | About 7 years full-time study | No, but repayments start once income reached a certain level | No possibility of loan forgiveness |
| | Loans provided by a public Loan Fund (FEE-HELP)[2] | Government authorities, TEIs | Income-contingent | Yes, in all cases (only indexation and loan fee)[3] | Yes, in all cases (only indexation)[3] | Citizenship conditions; Residency conditions[4] | TEI approved to offer loans | Cost of the academic programme | Lifetime borrowing limit | No, but repayments start once income reached a certain level | No possibility of loan forgiveness |
| | Loans provided by a public Loan Fund (OS-HELP)[2] | Government authorities, TEIs | Income-contingent | Yes, in all cases (only indexation and loan fee)[3] | Yes, in all cases (only indexation)[3] | Citizenship conditions; Residency conditions[4] | Full-time; Government subsidised place at a TEI; foreign TEI | None, there is a maximum amount available | Two study periods of six months | No, but repayments start once income reached a certain level | No possibility of loan forgiveness |
| Belgium (Flemish Community) | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Chile | Loans provided by a public Loan Fund | Government authorities, TEIs[5] | Income-contingent | No, but students benefit of government's borrowing rate | No, but students benefit of government's borrowing rate | Citizenship conditions; Income threshold | Public or private-dependent institutions | Cost and duration of the academic programme | Duration of the academic programme + 50% | Yes, in all cases (2 years) | If repayment not completed in a given number of years after the end of studies (12-15 years depending on the amount borrowed) |
| | Loans provided by commercial banks with public guarantee[6] | Intermediate agency | Mortgage type | No, but publicly guaranteed | No, but the loan is publicly guaranteed | Citizenship conditions; Income threshold | Accredited TEI; No prior public loan; No prior professional degree | Cost and duration of the academic programme | Duration of the academic programme + 40% (aprox.) | Yes, in all cases (18 months) | Social difficulties |
| China | Loans provided by public Loan Fund | TEIs, Intermediate agencies | Income-contingent | Yes, in all cases | No | Income threshold | Accredited TEI or programme; No prior tertiary degree | Cost or duration of the academic programme; Cost of living in different regions/cities | Duration of the academic programme | Yes, in all cases (1 year) | If graduates are employed in specific areas or regions |
| | Loans provided by commercial banks with public subsidy or public guarantee | TEIs, Commercial banks | Mortgage-type | No | No | Income threshold | Accredited TEI or programme | At the discretion of commercial banks | At the discretion of commercial banks | At the discretion of commercial banks | At the discretion of commercial banks |
| Croatia | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Czech Republic | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Estonia | Loans provided by commercial banks with public subsidy or public guarantee | Commercial banks | Mortgage-type | Yes, in other circumstance (when interest exceeds 5%) | Yes, in other circumstance (when interest exceeds 5%) | Citizenship conditions; Residency conditions | Full-time;[7] Domestic or foreign TEI | None, maximum amount available for all students | Duration of the academic programme | Yes, in all cases (1 year) | Partial forgiveness: If graduates are employed in specific sectors (public service); If graduates give birth |
| Finland | Loans provided by commercial banks with public guarantee | Commercial banks | Mortgage-type | No, but publicly guaranteed | No, but the loan is publicly guaranteed | Citizenship conditions; Age limit (17+) | Full-time; Accredited TEI or programme; No prior tertiary degree | Duration of the academic programme | Duration of the academic programme + 1 year | At the discretion of commercial banks | Social difficulties |
| Greece | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Iceland | Loans provided by public Loan Fund | Intermediate agency | Income-contingent | Yes, in all cases | Yes, during the whole repayment period (need-based) | Citizenship conditions | Accredited TEI or programme; No prior tertiary degree | Cost or duration of the academic programme; Cost of living | Duration of the academic programme + 1 year | Yes, in all case (1 year) | *m* |
| Japan | Loans provided by a public Loan Fund | Intermediate agency (Independent Administrative Institution, Japan Student Services Organization) | Mortgage-type | Yes, in all cases | Yes, during the grace period and when interest exceeds 3% | Income threshold; Academic performance threshold | Domestic or foreign TEI (including short-term mobility) | Financial need (students have the choice between different loan brackets); Living with parents; Type of institution (private or public) | Duration of the academic programme | Yes, in all cases (6 months) | Excellent academic performance |
| Korea | Loans provided by a public Loan Fund | Government authorities | Mortgage-type | Yes, only on a financial need basis | Yes, only during the grace period | Citizenship conditions | Full-time | Cost or duration of the academic programme | Duration of the academic programme | Yes, in all cases (*m*) | No possibility of loan forgiveness |
| | Loans provided by commercial banks with public subsidy or guarantee | Intermediate agency (Korea Housing Finance Corporation) | Mortgage-type | Loans with public subsidy: Yes, only on a financial need basis; Loans with public guarantee: No, but publicly guaranteed | Yes, in all cases | Citizenship conditions; Age limit (maximum 55 years); Academic performance threshold | Full-time | Academic year attended | Duration of the academic programme | Yes, in all cases (m) | No possibility of loan forgiveness |
| Mexico | No national loan scheme[8] | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Netherlands | Loans provided by public Loan Fund | Intermediate agency (special agency of the Ministry of education) | Mortgage type (income-contingent on student request) | No, but students benefit of government's borrowing rate | No, but students benefit of government's borrowing rate | Citizenship conditions; Residency conditions; Age limit (under 30 at start); Income threshold | Accredited programme; Domestic or foreign TEI; No prior tertiary degree | Financial need; Cost and duration of the academic programme | Duration of the academic programme + 3 years | Yes, in all cases (2 years) | If repayment not completed in a given number of years after the end of studies (15 years + 2 years of grace period); Social difficulties |
| New Zealand | Loans provided by public Loan Fund | Government authorities | Income-contingent | Yes, in all cases (no interest if living in the country) | Yes, in all cases (no interest if living in the country) | Citizenship conditions; Residency conditions; Parental consent if under 18 years[9] | Accredited TEI or programme | Cost of the academic programme; Living cost; Being awarded a grant | No maximum duration | No, but repayments start once income reached a certain level[10] | Bankruptcy |
| Norway | Loans provided by a public Loan Fund | Intermediate agency (the State Educational Loan Fund) | Mortgage-type (income-contingent plan may be granted on student request) | Yes, in all cases | No, but the loan is publicly guaranteed | Citizenship conditions; Age limit (18/65), Income threshold for student and spouse | Accredited TEI or programme (either public or private) | Cost of academic programme at private institutions | 8 years | Yes, in all cases (7 months) | If study progress requirements are met;[11] If graduates are employed in specific geographical areas (northern areas); Social difficulties; If graduates give birth |

Table 4.6 **Student support: loan schemes, 2007** (continued)

| | Types of national loan schemes available to students | Who is responsible for the delivery of loans? | Repayment plan used | Public subsidies | | Eligibility criteria of loan scheme | | Characteristics of loans | | Repayment | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Is interest subsidised during the course of studies? | Is interest subsidised during the repayment period? | Personal eligibility criteria considered | Eligibility criteria related to the type of enrolment | Criteria used to determine the amount a given student can borrow | Maximum duration a student can borrow | Does a grace period exist after the end of studies? | Under which conditions is loan forgiveness possible? |
| Poland | Loans provided by commercial banks with public subsidy and public guarantee | Commercial banks | Income-related[12] | No, but publicly guaranteed | Yes, during the whole repayment period | Citizenship conditions; Age limit (under 25 at start); Income threshold | Domestic TEI | Financial need; Cost and duration of the academic programme | Duration of the academic programme | Yes, in all cases (2 years) | If study progress requirements are met;[13] Social difficulties |
| Portugal | Loans provided by commercial banks with public garantee | Commercial banks | Mortgage type | No, but the loan is publicly guaranteed | No, but the loan is publicly guaranteed | Citizenship conditions | Accredited TEI | None, but with maximum amount a student can borrow | Duration of the academic programme | Yes, in all cases (1 year) | No possibility of loan forgiveness |
| Russian Federation | No national loan scheme (proposal under study) | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Spain | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| Sweden | Loans provided by a public Loan Fund | Government authorities | Mortgage-type[14] (income-contingent on the basis of financial need) | No | No | Citizenship conditions; Residency conditions; Age limit (maximum 54); Income threshold; Academic performance threshold | Accredited TEI | Cost of living (only if studying abroad); Family situation; Student status (part-time versus full-time); Being a mature student | 240 weeks | Yes, in all cases (about 6 months) | If repayment is not completed at a given age (68); If students continue to a higher level of study, debt incurred during some types of introductory studies may be forgiven |
| Switzerland | No national loan scheme | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* | *a* |
| United Kingdom (Eng.) | Loans provided by public Loan Fund | Government authorities, Intermediate agencies | Income-contingent[15] | Yes, in all cases | Yes, during the whole repayment period | Citizenship conditions; Age limit (under 60 at start); Income threshold | Full-time; Publicly-funded TEI; Accredited TEI or programme; Domestic TEI; On-campus programme | Financial need; Cost or duration of the academic programme; Cost of living in different regions/cities | Duration of the academic programme + 1 year | Yes, in all cases (about 1 year); repayments start once income reached a certain level | If repayment not completed in a given number of years after the end of studies (25 years); If repayment not completed by a given age (65) |
| United Kingdom (N.Irl.) | Loans proved by a public Loan fund | Government authorities, Intermediate agencies | Income-contingent[15] | Yes in all cases | Yes, during the whole repayment period | Citizenship conditions; Age (18+); Income threshold | Publicly-funded TEI; accredited TEI or programme; Domestic TEI; On-campus programme; No prior tertiary degree | Financial need; Cost of living; Independent or not from parents; Family situation | Duration of academic programme | Yes, on the basis of financial need. | If repayment not completed in a given number of years after the end of studies (25 years); Social difficulties. |
| United Kingdom (Scot.) | Loans provided by public Loan Fund | Government authorities, Intermediate agencies | Income-contingent[15] | Yes, in all cases | Yes, during the whole repayment period | Citizenship conditions; Income threshold | Accredited TEI or programme; No prior tertiary degree | Financial need; Cost or duration of the academic programme; Being awarded a grant | Duration of the academic programme + 1 year | Yes, in all cases (about 1 year); repayments start once income reached a certain level | If repayment not completed in a given number of years after the end of studies (35 years) |
| United Kingdom (Wal.) | Loans provided by public Loan Fund | Government authorities, Intermediate agencies | Income-contingent[15] | Yes, in all cases | Yes, during the whole repayment period | Citizenship conditions; Income threshold | Accredited TEI or programme; No prior tertiary degree | Financial need; Cost or duration of the academic programme; Cost of living in different regions / cities | Duration of the academic programme + 1 year | No, but repayments start once income reached a certain level | If graduates are employed in specific sectors (teaching shortage subjects) |

***Definitions:*** This table addresses existing national policies regarding student loan schemes available to under-graduate students (ISCED level 5) attending public or private institutions. The term loan refers to financial support awarded to a student that has to be repaid. Loans that may be converted into grants are considered in this table. This table focuses on national loan schemes. Loans provided by tertiary education institutions with their own resources are excluded. Only publicly-funded and/or publicly-guaranteed loan schemes provided to under-graduate students are considered. Loans funded from private sources (such as loans provided by commercial banks without public subsidy or guarantee), and loans provided to post-graduate students are not considered.
*Public Loan Fund* refers to a sum of money from public resources set aside for the specific purpose of funding student loans.
*Loan provided by commercial banks with public subsidy* refers to schemes where the interest on the student loan or part of it is paid by a government authority and/or intermediate agency to the lending commercial bank.
*Loan provided by commercial banks with public guarantee* refers to an agreement between the lending commercial bank and a government authority and/or intermediate agency in which the State commits to cover the payment of debt if the student defaults.
*Delivery of loans* refers to the selection of students who will take out a loan, the payment of the loan and related administrative responsibilities.
*Mortgage-type* refers to loan schemes where repayments are based on a schedule of fixed payments over a defined period of time.
*Income-contingent* refers to loan schemes where repayments are based on student's income after graduation (part of the loan might be forgiven if the graduate is not able to repay it in full after a fixed period of time).
*Income-related* refers to loan schemes where a single repayment scheme includes two elements: a fixed amount (*i.e.* independent from income) and an amount that is dependent on income.
*Grace period* refers to a period of time after the end of studies (regardless of whether the borrower graduates or leaves studies) during which the borrower is not required to initiate the repayment.
*Eligibility criteria* refers to the criteria that students need to meet to become eligible for a loan. Eligibility criteria are specific to the candidate (*i.e.* criteria that need to be met regardless of the characteristics of other candidates) and are not used to compare characteristics of different eligible students.
*Loan forgiveness* refers to the full or partial cancellation of the debt and the *de facto* transformation of a loan into a grant (*i.e.* with no obligation to repay). Only reasons other than death, permanent disability and serious illness are considered in this table.

***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. HECS-HELP is available to Government subsidized students. FEE-HELP is available to students paying the full cost of their tuition fees. OS-HELP assists eligible students to undertake some of their course of study overseas.
3. There is no real interest charged on loans provided by the public Loan Fund. However, a fee of 20% is charged to FEE-HELP and OS-HELP loans and a discount of 20% is applied for up-front payment for HECS-HELP loans. The value of the outstanding loan is adjusted annually with the consumer price index.
4. Permanent residents may access loans in limited circumstances.
5. Each university has a Loan Fund, which is funded by repayments and government's transfers. Although the law establishes that institutions deliver the loans, TEIs delegate resource allocation to the Government.
6. TEIs and government guarantee loans during and after the period of studies respectively.
7. Except for students enrolled part-time in a teacher education programme, with a teaching post with a workload of at least 18 hours per week.
8. However, SOFES (*Sociedad de Fomento a la Educación Superior*) offers loans at a lower interest rate than commercial banks and loan schemes exist in some states.
9. Undischarged bankrupts are ineligible for loans.
10. Borrowers travelling or based overseas are entitled to 3 year repayment holiday.
11. Up to 40% of the loan amount is convertible into a grant.
12. Repayment may be reduced to a maximum of 20% of monthly income at the request of the student.
13. 5% of the graduates with the highest academic results are eligible for partial cancellation of their debts.
14. Repayment may be reduced to a maximum of 5% of annual income at the request of the student. Repayments of the former student loans (before 2001) are still on an income contingent basis.
15. Repayments of the former student loans may still be on a mortgage type basis.

***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.

A number of countries can be broadly considered to have loan systems with universal access since eligibility criteria are typically limited to citizenship/residency status: Australia, Iceland, New Zealand (parental consent needed if under 18), and Korea. By contrast, an income threshold is used to define student eligibility for loans in Chile, China, the Netherlands (with the additional criterion of starting the programme before age 30), Norway and the United Kingdom. Finally, an academic performance threshold is also part of the eligibility criteria in Japan and Sweden. Other typical criteria include enrolment in an accredited programme and no prior tertiary degree.

Further features of loans provided through public Loan Funds include aspects such as criteria to define the maximum amount a student can borrow, the maximum duration a student can borrow, whether a grace period following completion of studies exists, and the conditions under which loan forgiveness is possible. Across the 11 countries with public Loan Funds, these features are as follows:

- All countries establish a maximum amount a student can borrow and most establish criteria to differentiate the maximum across students. The most common criterion relates to either the cost of the programme (including tuition fees) and/or its duration (in Australia, Chile, China, Iceland, Korea, the Netherlands, New Zealand, Norway and the United Kingdom (except Northern Ireland)). The type of institution (whether public or private) is used in Japan as a criterion. The cost of living is taken into account in China, Iceland, New Zealand, and the United Kingdom (except Scotland). Measures of financial need or whether the student lives with the parents or is independent are taken into account by loan schemes of Japan, the Netherlands, and the United Kingdom. New Zealand and Scotland reduce the maximum amount allowed for borrowing if the student was conferred a grant. Finally, in Sweden the maximum amount depends on the family situation, whether studies are full-time or part-time and whether or not the student is considered 'mature'.

- There is a maximum duration a student can borrow from a public Loan Fund in all systems except New Zealand. The stricter systems – China, Japan, Korea and Northern Ireland - make the maximum duration equivalent to the duration of the programme. Other approaches include one year more than the duration of the programme (Iceland, the United Kingdom except Northern Ireland), 3 years more than the duration of the programme (the Netherlands), 1.5 times the duration of the programme (Chile), 240 weeks (Sweden), 7 years of full-time study (Australia for HECS-HELP), and 8 years of study (Norway).

- For repayment, a grace period exists after completion of studies in most countries. This is the case in Chile (2 years), China (1 year), Iceland (1 year), Japan (6 months), Korea, the Netherlands (2 years), Norway (7 months), Sweden (about 6 months), and the United Kingdom (about one year in England and Scotland). In Australia and New Zealand there is no grace period but given the income-contingency of repayments, students only start repaying their loan once income has reached a minimum repayment threshold. The latter is also the case in the United Kingdom.

- Other than death and permanent disability, there is a diverse range of circumstances across countries under which loan forgiveness is possible. The most common is if the repayment has not been completed within a given number of years after the end of the studies: 12 to 15 years in Chile depending on the

amount borrowed; 15 years in the Netherlands; 25 years in England and Northern Ireland; and 35 years in Scotland. The same occurs, in some countries, if payment has not been completed by a given age: 68 in Sweden and 65 in England. Other reasons include if employed in specific areas or regions (China); excellent academic performance (Japan); bankruptcy (New Zealand); employed in specific geographical areas (Norway) or having financial difficulties (Norway and Wales); if graduate gives birth (Norway); if student continues to higher studies after completion of specific areas of study (Sweden); if employed in specific sector (teaching shortage subjects in Wales). In Norway, if the student completes studies within a pre-determined period, the loan is converted into a grant (up to 40%). Finally, only in Australia and Korea there is no possibility of loan forgiveness.

*A number of countries provide loans through commercial banks with a public subsidy and/or a public guarantee*

Seven countries – Chile, China, Estonia, Finland, Korea, Poland and Portugal – provide loans to tertiary education students through commercial banks with a public subsidy and/or guarantee (see Table 4.6). Only in Poland and Korea are these types of loans both publicly subsidised (during the repayment period) and publicly guaranteed. This is also the case in Estonia when the interest rate exceeds 5% both during the course of studies and during the repayment period. In Chile, China, Finland and Portugal these types of loans are publicly guaranteed only. Delivery of the loans is typically by commercial banks and repayment plans are of a mortgage type in all countries (but in Poland, the periodical repayment amount can be reduced if the student's income is below a given threshold). In Chile, China and Poland these types of loans are available to students on a need-basis only. Other personal eligibility criteria include an age limit (above 17 in Finland, maximum of 25 at the start of studies in Poland, and a maximum of 55 in one of the schemes available in Korea) and an academic performance threshold (in one of the schemes available in Korea). Schemes in Estonia, Finland and Portugal have characteristics of 'universal' systems with only basic eligibility criteria such as citizenship conditions and minimum age in Finland. Across the seven countries, other features of publicly subsidised and/or guaranteed commercial loans include:

- All countries establish a maximum amount a student can borrow, and only Estonia and Portugal make the maximum uniform across students. The most common criterion to define the maximum amount which can be borrowed relates to either the cost of the programme and/or its duration (Chile, Finland and Poland). The Polish scheme takes account of the extent of financial need and schemes in Korea account for the academic year attended. In China, the maximum amount is left at the discretion of the commercial banks.
- There is a maximum duration a student can borrow in each country. The stricter systems – Estonia, Korea, Poland and Portugal - make the maximum duration equivalent to the duration of the programme. Other approaches include one year more than the duration of the programme (Finland) and 1.4 times the duration of the programme (Chile). In China, the maximum duration is left at the discretion of commercial banks.
- For repayment, a grace period following completion of studies exists in Chile (18 months), Estonia and Portugal (1 year), Korea and Poland (2 years). Granting a grace period is left at the discretion of commercial banks in both China and Finland.

– In each country but Korea and Portugal, there are circumstances under which loan forgiveness is possible. The most common is when the individual goes through social/financial difficulties (Chile, Finland and Poland). In Poland, the 5% 'best' graduates are eligible for partial debt cancellation. In Estonia, partial forgiveness is possible if graduates are employed in public service or give birth.

The Portuguese scheme of publicly-guaranteed loans through commercial banks was launched in the 2007-08 academic year with some innovative features. The scheme is based on an existing Mutual Counter-Guarantee Fund, previously available only to small and medium-sized enterprises (SMEs), and does not require any patrimonial type guarantee from the students. The public endowment to the Fund covers 10% of the loans provided, with the commercial banks covering the remaining risk. Interest rates charged are determined on the basis of the "swap" rates increased by a maximum spread of 1%. Interest rates are also merit-based: three academic performance brackets are considered with the best performing students paying a lower interest rate. The scheme typically provides for a grace period of one year, followed by a reimbursement period of 6 to 10 years. The system also supports students undertaking international mobility programmes of 3 to 12 months.

Chapman (2006) gives four shortcomings with publicly guaranteed bank loans: *(i)* loans will not be universally available, suggesting that some students with unwilling families will not be able to borrow, and thus face the inequities and difficulties associated with the payment of up-front tuition; *(ii)* the costs for the public sector can be high, due to student default; *(iii)* some risk averse potential students will not be prepared to undertake loans with repayment burdens which do not account for capacity to pay; and *(iv)* there might well be socially unproductive career choices made by graduates facing very high loan repayments that are not sensitive to capacity to pay.

*The size and scale of loan schemes differ across countries*

As reflected in Figure 4.12, the scale of loan schemes varies considerably across countries. In New Zealand, 53% of eligible students opted for a student loan in 2004 (74% for eligible full-time students and 15% for eligible part-time students). Around 14% of all New Zealanders aged 15 or over had undischarged loan balances at 30 June 2005. In 2005, the forecast median loan-repayment time was 6.7 years. Before the subsidised interest policy came into force in April 2006, the Loan system implied a governmental subsidy of about 19%. In Poland, 11% of the student population had taken out a loan over the course of the 2004-05 academic year. In Korea, about 25% of students in university programmes, and 22% of students in all university and post-graduate programmes, received loans in 2004.

*Loan systems with income-contingent repayments are particularly appealing*

According to Chapman (2006), income contingent loans (ICLs) have two major advantages over more typical borrowing arrangements involving bank loans with government guarantees. Both benefits involve the provision of insurance and result from the fact that ICLs repayments are defined by the borrower's capacity to repay debt. The first insurance benefit of ICLs concerns default. Because repayments are not required in periods of low income, borrowers are never in a financial situation in which they are unable to meet their loan repayment obligation. The second insurance benefit of ICLs for

borrowers is that they can eliminate expected future hardships associated with repayment. Compared to bank loans ICLs provide consumption smoothing (Chapman, 2006).[79]

But their benefits are not limited to insuring borrowers against risk and uncertainty. ICLs may also yield equity benefits, to the extent that they also potentially improve the progressiveness of the overall system. Low earners make low or no repayments and graduates with low lifetime earnings end up not repaying their loans in full. Those individuals who derive greater private benefits from a tertiary degree see the level of their public subsidy reduced vis-à-vis that of other students.

One model is that of the Australian Higher Education Contribution Scheme (HECS) (see Box 4.4). It allows the introduction of tuition fees without imposing up-front fees on students and families. Instead, the government finances the tuition fees by paying institutions out of public funds at the time students enrol, and is being repaid through the tax system once the income of a person with a HELP debt is above the minimum repayment threshold for any particular year. Australia has successfully used HECS to become a mass system of higher education.

**Box 4.4. Income-contingent loans for domestic students in Australia**

The expansion of higher education access in Australia during the 1990s was encouraged by innovative student fee arrangements. Since 1989, Australian higher education students, unless exempt for a specific reason, have been required to contribute to the cost of their education through a deferred payment scheme, the Higher Education Contribution Scheme (HECS). This coincided with the institution of the world's first broadly-based income contingent charging system for higher education. HECS seeks to recover part of tuition costs, and is not concerned with student income support (this takes the form of the means-tested *Youth Allowance* and *Austudy* grants schemes).

There are two forms of income-contingent loan assistance for students: the Higher Education Contribution Scheme – Higher Education Loan Programme (HECS-HELP) and the FEE-HELP scheme. HECS-HELP provides both a public tuition subsidy for the cost of a student place and an unlimited income-contingent loan. FEE-HELP provides only an income-contingent loan, capped at AUD 80 000 (except for Medicine). HECS-HELP is available primarily for government-supported under-graduate places in public universities for Australian residents. FEE-HELP is available for full-fee places in public and private universities and other TEIs, both under-graduate and post-graduate, for Australian residents. When a student takes out a HECS-HELP loan, the process takes the following three steps: (1) the Government pays part or all of the student contribution amount to the institution on the student's behalf, (2) a HECS-HELP debt is recorded for the student with the Tax Office, and (3) the student starts paying HELP debt when his/her income rises above AUD 35 000 per annum. Repayment rates are stepped up in nine income bands, such that a graduate pays 4% of income at AUD 35 000, 4.5% at AUD 39-43 000, up to 8% at AUD 65 000 and above.

As reported in OECD (2007c), evaluations of the effect of HECS on student access and participation have reported very low levels of deterrence of students from low socio-economic backgrounds (Chapman and Ryan, 2002). The share of students from the lowest income quartile did not decline even after charges were raised and repayment conditions were tightened (Andrews, 1999). Socio-economic status became less important in determining tertiary education participation in the late 1990s, after a decade of experience with HECS, than for earlier cohorts (Marks *et al.*, 2000; Chapman and Ryan, 2002).

For more information: www.goingtouni.gov.au/Main/Quickfind/PayingForYourStudiesHELPLoans/Default.htm

*Sources:* Country Background Report for Australia, Appendix D in OECD (2007c), Chapman (2006), Web site of Department of Education, Science and Training of Australian Government (DEST) (given above).

79 Usher (2005) reviews the common claims made in support of and in opposition to ICLs.

*However, some conditions are necessary for the successful implementation of ICLs*

Chapman (2006) identifies minimum conditions ideally required in order to implement a successful ICL scheme:

- A reliable, preferably universal, system of unique identifiers.
- Accurate record-keeping of the accruing liabilities of students (while studying).
- A collection mechanism with a sound record-keeping system.
- An efficient way of determining with accuracy, over time, the actual incomes of former students.

Chapman (2006) emphasises that if the right administrative arrangements are not available the institution of an ICL is not viable. He also proposes a set of necessary steps in setting up an income contingent loan scheme.

The successful implementation of an ICL scheme requires a tax system with a relatively high degree of compliance. Without such a tax system, the repayments are unlikely to achieve necessary levels to be credible and financially sustainable. It is also important to stress that it is very expensive for governments to take on the responsibility of paying fees initially until repayments are made while at the same time providing teaching and research funding to TEIs. In addition, an ICL system based on a public fund entails a substantial initial investment (only recovered when students start their repayments), not easily supported by the public budget.

### *4.10.4 Other support for students*

In addition to loans and grants, students often support themselves through part-time and vacation employment and with the assistance from their families.

*Part-time employment is a common source of support for students*

The practice of taking up employment while studying has become common in most countries. A survey of students in selected European countries (Eurostudent, 2005) reveals that the proportion of students with an employment, in varying degrees of commitment and regularity, ranges from 20% in Portugal or 30% in Italy to maximum values of 69% in Ireland and 91% in the Netherlands. The incidence of work among 21-year-old students is at least 50% in five of the 11 countries for which data are available (Austria, Finland, Germany, Ireland and the Netherlands). This proportion is lowest in Portugal (9%), which exposes the lack of tradition (or the unavailability) of part-time work for the younger cohorts attending tertiary education in some countries. In the surveyed countries, the extent of employment is limited: 21-year old tertiary students worked, in 2005, an average of 11 hours per week in the Netherlands, 7 hours per week in Spain and 2 hours per week in Portugal.

In New Zealand, a survey by the New Zealand University Students' Association found that 67% of full-time students had a part-time job in 2004 (compared to 41% in 2001), working an average of 13 hours a week. About 64% of students worked during the Summer vacation (compared to 77% in 2001). Students who receive student allowances may receive the *Unemployment Benefit Student Hardship* if they are not able to find vacation employment.

The burden that part-time employment places on students and the effects that it might have on their capacity to learn effectively is likely to be important in some circumstances (see Section 4.10.5). While, in most cases, work is undertaken to meet living costs, in some instances students may also work in anticipation that paid work will assist them in finding career employment opportunities after graduation, since work experience provides them with a competitive advantage over those who have only an academic qualification.

*The extent to which students rely on family support varies across countries*

There are different traditions across countries on the extent to which students receive family support during their tertiary studies. For instance, in European Nordic countries, students are considered to be independent of parents by the age of 18, and neither by law nor custom are families obligated to support students study costs. Surveys of European students (Eurostudent, 2005) indicate that families play a greater role in financing tertiary studies in countries such as Ireland, Portugal and Spain.

### *4.10.5 Impact of approaches to student support*

This Section reviews the evidence on the impact of approaches to student support on the extent of part-time work, choice of programmes and institutions, and post-graduation activity patterns (*e.g.* family formation, house purchasing, graduate school attendance). This Section complements Section 4.4.4 that included the examination of the impact of student support on participation and completion rates.

*There is little research which looks at student employment during tertiary studies*

Few research studies have examined the relationship between tertiary education attendance costs and student employment. These tend to indicate a positive impact of attendance costs on the extent of student employment. Belot *et al.* (2004) examined the impact of a reform in the student support scheme of the Netherlands on student part-time work. The 1996-reform reduced the duration of public support by one year and limited it to the nominal duration of the study programme. They find that the less generous support system led students to spend relatively more time working during their studies (3.7 hours per week on average) and less time studying (1.8 hours per week on average). Metcalf (2005) assesses the impact of the increasing costs of higher education in the United Kingdom. In 1998, a fee contribution of £1 000 per annum was introduced for new entrants to full-time degree courses. She finds that fees had no general impact on term-time employment but term-time employment increased for students who did not receive financial support from their families.

A number of studies assess the impact of student employment on academic performance and provide mixed results. In the context of the United States, Paul (1982) finds that working is detrimental to academic performance in tertiary education; Hood, Craig, and Ferguson (1992) find that academic results are highest among students with moderate amounts of part-time work, and Ehrenberg and Sherman (1987) find positive effects of working in on-campus jobs but negative effects of working in off-campus jobs. A study by Hunt *et al.* (2004), assessing the relationship between term-time employment and academic assessment in a British university, finds that for three of the seven subject groups investigated the adverse impact of employment on attainment was found to be significant. Stinebrickner and Stinebrickner (2003) find that part-time work at an

institution in the United States has a harmful impact on grade performance. The authors, however, stress that it is important to note that the effect that working has on academic performance will depend on many factors associated with a person's specific situation. Furthermore, they also draw attention to the fact that, "from a policy standpoint, it is important to keep in mind that evidence from Ruhm (1997), Light (1999), and others suggests that youth employment can have a beneficial impact on future income."

Curtis and Shani (2002) use students' perceptions to investigate the effect of taking paid employment during term-time on students' academic studies. They conclude that there are adverse effects on study in the form of missed lectures, and students' perceptions are that coursework grades are lower than they would have been had they not been working. Nevertheless, students highlight the benefits of working, which are not only monetary but include the development of skills, greater understanding of the world of business and an increase in confidence, all of which are advantageous to their studies.

*Evidence on whether approaches to student support affect students' choices of programmes is scarce*

There is very little research on the extent to which student financial aid impacts on the choice of programmes and/or institutions. Some studies in the United States provide some evidence that the student's choice of a particular institution does positively depend on the financial aid package offered (Avery and Hoxby, 2003; Wetzel *et al.*, 1998). A study focused on the student support system in the Netherlands suggests that less generous student support systems might influence the type of institution chosen. Belot *et al.* (2004) find that the 1996-reform of the student support system, which reduced the duration of public support by one year and limited it to the nominal duration of the study programme, drove 2.2% of the students from research universities to universities of applied sciences.

*There is mixed evidence on whether student indebtedness has an impact on post-graduate studies*

The few studies that have looked at whether or not debt incurred as an under-graduate student affects plans for graduate study, most of which look at the case of the United States, produced mixed results. Some of these studies suggest that student indebtedness has no significant impact on the decision to enrol in graduate school (Schapiro *et al.*, 1991; Monks, 2001; Heller, 2001). Monks (2001), who examines the impact of debt on the educational outcomes of graduating seniors from a set of private, expensive, highly selective colleges and universities in the United States, reports that most students with loans do not feel that their debt has had a significant effect on their post-graduation choices. He also reveals that, on the other hand, approximately 20% agreed to a moderate or great extent that their loans have caused them to postpone graduate or professional school. Almost 25% stated that their loans caused them to restrict their graduate school choices to those with significant financial aid; 10% stated that debt led them to choose a professional degree rather than arts and sciences graduate degree; and over 30% felt that their loans caused them to focus their job search on higher paying fields.

Some other studies suggest that student indebtedness might have a negative impact on the graduate's decision to enrol in post-graduate studies. Millett (2003) finds that under-graduate indebtedness in the United States was a deterrent to application to graduate or professional school for 41% of the doctoral degree aspirants in 1992-93. Baum and Saunders (1998), analysing the 1997 National Student Loan Survey in the United States,

report that half of the lower income students (those who had received Pell grants) in the study said that their under-graduate debt had prevented them from attending graduate school, compared to 40% of the overall under-graduate population.

*There is little evidence that student indebtedness affects graduates' consumer and social behaviour*

The available evidence seems to suggest that the majority of student loan borrowers are able to repay their student loans without a significant impact on their consumer and social behaviour (*e.g.* buying homes, buying cars, getting married, having children, leaving the country). In the United States, the analysis by Baum and Saunders (1998) of the 1997 National Student Loan Survey, reveals that some borrowers reported that they had delayed certain activities because of their student loan payments, and these percentages increased since 1991. In 1997, 40% of borrowers said that their debt had caused them to delay buying a home, up from 25% in 1991; 31% said that they had delayed purchasing a car due to their student loan indebtedness, compared to 16% in 1991; 22% said that their student loans had caused them to delay having children, up from 12% in 1991. In this study, car ownership does, in fact, appear to be slightly affected by debt levels. But this is not the case for home ownership, which is determined by income, age, living with a spouse or partner, and the presence of children. Similarly, this study did not identify any measurable impact of debt levels on whether or not borrowers are married or have children.

Other evidence from Australia and New Zealand supports the view that student indebtedness has little impact on graduates' consumer and social behaviour. This is important because most loans in the United States are mortgage style whereas the Higher Education Contribution Scheme (HECS) in Australia and the New Zealand Student Loan Scheme are based on income-contingent repayments. Scobie *et al.* (2005), using a large-scale survey of the New Zealand population that looked at savings behaviour and wealth accumulation, find that the presence of a student loan doesn't affect family formation or home ownership. Yu *et al.* (2007), using survey data to examine the effect of the HECS and other demographic and attitudinal variables on fertility expectations in Australia over the recent past, demonstrate that the introduction of HECS has had no discernible impact on Australian fertility rates and the number of children that people expect to have.

Two studies based on the New Zealand experience with income-contingent loans provide indications that student indebtedness is not significantly associated with leaving the country within a few years of graduation. Kemp *et al.* (2006), using a longitudinal dataset with extensive family and academic information on people born in Christchurch in 1977, conclude that there is no evidence to suggest that increasing debt levels were associated with the decision to work or travel overseas at age 25. Smart (2006), using the *Integrated Dataset on Student Loan Scheme Borrowers* (IDS) with characteristics of around 23 000 student loan scheme borrowers from the 1997 leaving cohort, finds that the presence of a loan only weakly accounts for decisions to leave New Zealand. However, the analysis shows that the size of the student loan leaving balance was a statistically significant factor in the likelihood that a borrower was declared overseas five years after finishing study.

## 4.11 Efficiency of funds use

Governmental concerns about accountability, value for money, and cost control are giving rise to the need to operate institutions with high degrees of efficiency. This Section focuses on the internal efficiency of institutions. It reviews trends raising concerns about the efficiency with which public funds are spent and provides an overview of the factors which impact on institutional efficiency.

### *4.11.1 Inefficiencies in tertiary education systems*

*Low completion rates and extensive time-to-degree can, in some circumstances, reflect inefficiency in tertiary education systems*

Typical measures used to assess the efficiency of tertiary education systems are completion (or drop-out) rates and time for study completion. Low completion rates and extensive times to degree are often interpreted as reflecting system inefficiency and an inadequate use of resources. In Croatia, only about 10-15% of students graduate on time, 35-40% of students complete their university studies and the average time to graduation for 4-5 year programmes is 7.5 years. In Spain, for degrees with a nominal duration of five years, the actual average time for degree completion in the academic year of 2000-01, in engineering, experimental sciences, health sciences and social sciences were 7.9, 6.6, 6.5 and 6.4 years, respectively.

Non-completion and late completion may have a range of consequences. They lead to an ineffective use of resources as they raise the cost of a tertiary degree. In systems with limited capacity, they might prevent (or delay) students who gained the qualifications to enter tertiary education to be admitted to their preferred programmes. They might also be detrimental to the quality of teaching and learning. Unmotivated students – often with guaranteed continuation of studies even after failure – may attend classes less frequently and approach studies with less seriousness, with possible impact on the morale of faculty members.

Non completion and late completion have a variety of causes. These might include weak prior academic preparation; inadequate tertiary education offerings for some learners; financial circumstances of students; poor career guidance; scarce academic support in institutions; attendance on a part-time basis; the rationing of study places which might involve the subsequent switching of courses, extensive paid work available in the labour market and generous grant-based assistance provided to students (see Section 4.11.3).

However, it needs to be noted that international comparisons of completion or drop-out rates are problematic because of differences in the nature of the systems across countries and in the approach to conceptualising the notions of completion. The same issue arises when completion rates are compared over time for a single country. For instance, differences in completion rates across countries reflect different patterns of participation. Completion rates differ significantly with factors such as the level of the qualification, the type of institution, the type of student (*e.g.* 'traditional age' versus mature) and the mode of learning (*e.g.* part-time versus full-time, distance learning). Trends such as a greater proportion of mature students, more part-time students and greater participation in non-university education may place downward pressure on

completion rates. This also reflects the trade-off between access and completion. As participation widens overall completion rates might decline.

Also, not all courses offered in tertiary education are intended to lead to degrees. For instance, an individual might attend courses of a given programme as professional development with no intention of completing the associated degree. Some tertiary-level students might also follow courses that are not part of a programme leading to a degree. It also needs to be recognised that there are many students who are successful in completing some parts of a qualification without ever finishing the whole. Non-completion of a degree does not mean that the acquired skills and competencies will be lost and not valued by the labour market. These aspects illustrate that care is needed when making an association between low completion rates or long times to degree completion with inefficiencies in the system and an ineffective use of resources. This association is only valid when the causes for non or late completion are well understood.

*Generous student-staff ratios might reflect internal inefficiencies of institutions*

Figure 8.2 (see Chapter 8) shows sharp differences across countries in the ratio of students to teaching staff in TEIs. In 2005 the student-teacher ratio was above 18 in Belgium, the Czech Republic, Greece, Italy, Poland and the United Kingdom while it was below 12 in Iceland, Japan, the Slovak Republic, Spain and Sweden. In Spain, among the countries with more favourable student-teacher ratios, despite declines in student enrolments in the past several years, staffing has increased: the number of academic staff in public universities has increased by 33.2% from 1995-96 to 2005-06 while the number of students in public universities decreased by 3.5% from 1994-95 to 2004-05. Low student-teacher ratios might reflect relatively low levels of utilisation meaning that unit costs are excessively high. But again, the association between low student-staff ratios and inefficiencies in the system needs to be made with care as a good understanding of how staff resources are used in institutions is needed (for example, more research-intensive institutions might exhibit lower student-staff ratios).

*Programme duplication and under-enrolment can also be sources of inefficiency*

Other sources of inefficiency often identified in tertiary education systems are the duplication of programmes across institutions and programmes with low enrolment. These typically result from the lack of co-operation between institutions, limited system-level co-ordination including in programme accreditation, the little flexibility for institutions to reallocate their internal resources and demographic pressures such as the decline of student numbers.

*Insufficient cross-institution collaboration and little student mobility may also hinder the efficiency of tertiary systems*

In some countries there is too little evidence of cross-institution co-operation which could lead to a more efficient use of resources. Such co-operation could involve the sharing of facilities such as library resources or laboratories, the creation of joint educational programmes or the development of joint projects in knowledge dissemination (*e.g.* science and technology parks). These might be particularly important in regional areas where they create a tertiary education presence that might not be sustainable as a stand-alone facility (see Section 3.5.3 in Chapter 3).

In Australia, a major theme identified in the *Crossroads Review* was the need for more collaboration between universities and other education providers, industry, business, regions and communities. *Our Universities: Backing Australia's Future* identified the benefits of such collaboration as promoting survival of low-demand but nationally or regionally important courses, enhancing efficiency of operations of the institutions involved, responding to labour market demand for new and flexible skills sets, enhancing efficiency of delivery of education, ensuring graduates are prepared for the labour market and maximising the commercial potential of research and innovation. The *Collaboration and Structural Reform Fund* was introduced in 2005 to foster such collaboration.

Co-operation between institutions can also create opportunities for cross-institutional pathways for students. Institutional paths that allow students to move with ease within the system and appropriate credit transfer mechanisms facilitate student mobility within individual countries. This is likely to improve the efficiency of the tertiary system insofar students' preferences and aptitudes are better matched to the system's educational offerings (see Section 3.5.3 in Chapter 3).

### *4.11.2 Analysing the cost-efficiency of institutions*

*Analysing the efficiency of institutions or departments is methodologically challenging*

There are a number of different concepts of institutional efficiency that are typically considered in the context of tertiary education (Salerno, 2003):

- *Technical efficiency*: a measure of the extent to which an institution efficiently allocates the physical inputs at its disposal for a given level of output;
- *Allocative* or *price efficiency*: a measure of the extent to which inefficiency occurs because an institution is using the "wrong" combination of inputs given what they cost;
- *Economic* or *overall efficiency*: jointly considers technical and allocative efficiency, capturing the extent to which an institution is *producing* at "optimal" levels, *i.e.* allocating inputs in such a way the highest/best possible output/outcome is reached given prices and costs in the sector.
- *Scale efficiency*: the extent to which institutions are operating at an optimal scale (assesses whether an institution is operating at increasing or decreasing returns to scale).

It happens that estimating institutional efficiency, whatever the measure used, is technically challenging.[80] A number of difficulties have been identified:

- The multitude of methodologies used in the empirical studies with the implication that the results of a single study often vary according to the choice of technique (Johnes, 2004).
- Limited knowledge of the true correspondence relating inputs to outputs and difficulties in defining institutions' objectives (educational production function, Hanushek, 1986).

80 For a detailed review of efficiency measurement in education see Johnes, 2004.

- Accounting for the diversity of objectives and outputs of institutions (Engert, 1996).
- Measuring many of the outputs of an educational organisation (Engert, 1996).
- Accounting for the quality dimension (Salerno, 2003; Johnes, 2004).
- Empirical estimates only allow for comparisons of relative efficiency between institutions and not the absolute efficiency of institutions (Jacobs and van der Ploeg, 2005).

Not surprisingly, empirical studies in this area are scarce. Abbott and Doucouliagos (2003) conclude that regardless of the output-input mix, Australian universities as a whole recorded high levels of efficiency relative to each other. Avkiran (2001), in investigating technical and scale efficiencies of Australian Universities using 1995 data, suggest that the university sector was performing well on technical and scale efficiency but there was room for improving performance on fee-paying enrolments. Using data on more than 100 TEIs in England, Johnes (2006) concludes that on average technical and scale efficiency in the English higher education sector appears to be high on average. However, she suggests that differences between the most and least efficient English TEIs are significant. In a study to assess the cost efficiency of Italian universities, Agasisti and Salerno (2007) suggest that limiting enrolment growth of some institutions while expanding enrolments in others could reduce system-wide costs and improve overall efficiency. Robst (2001), looking at cost efficiency in public higher education institutions in the United States, finds that institutions with smaller proportions of state funding were not more cost efficient.

In his survey of studies on higher education efficiency, Salerno (2003) concludes that most researchers suggest that technical and/or cost efficiency is relatively high. As he explains "this is puzzling in that it seems to contradict economic theories of nonprofit behavior, especially where higher education has been analyzed, that suggest inefficiency to be much more prevalent than in for-profit firms. Yet in none of the studies did the author express any concern that inefficiency was pervasive". He also stresses that the majority of the studies do little in the way of explaining why inefficiencies occur.

In a review of studies on the scale efficiency of universities, Cohn and Cooper (2004) conclude that in general economies of scale and scope exist for most TEIs. Other findings suggest that, in general, marginal cost tends to be greater for graduate studies than for under-graduate studies and that there appear to be numerous complementarities in the multi-product production processes of TEIs.

### *4.11.3 Determinants of institutional efficiency*

*Addressing institutional efficiency requires understanding the determinants of educational success in higher education*

Naylor and Smith (2004) review research studies on the determinants of educational success in tertiary education. They reveal that there are many robust and significant influences on student performance. They highlight three distinct sets of factors in addition to noting the gender difference in performance:

- The level of performance in prior qualifications.
- The characteristics of previous schooling (*e.g.* private or public).

– Family background, which could be the result of cultural or aspirational transmission within the family or that students from less affluent backgrounds have to supplement their income with part-time labour market employment.

In the same review, the authors also conclude that academic preparedness for the university course is the major influence on student withdrawal probabilities. They explain that this captures various elements including *(i)* the absolute level of performance in pre-university study; *(ii)* the relative performance (or quality of skills match) of the student to that of other students on the course; and *(iii)* the match in the subjects studied before and at university. They also stress that another important set of factors concerns the extent of social integration at the institution.

Other reviews (Kalsner, 1991; Bennett, 2003) emphasise that decisions to withdraw from tertiary education are more based on personal, social and financial factors. The work of Tinto (1975, 1988), who devised a theoretical path analysis model, suggests that the student's social and academic integration into the educational institution is the major determinant of completion. The key influences on integration proposed are the student's family background, personal characteristics, previous schooling, prior academic performance, perceptions of whether teachers were personally committed to students and the quality of the relationships with other students and teaching staff.

A few authors have challenged the view that factors external to the institution (as most of the factors suggested above) are dominant in explaining student success. As reported by Bennett (2003), Martinez's (2001) review of (largely unpublished) literature on the factors underlying low rates of retention in university level institutions concluded that good teaching, satisfaction with courses (*e.g.* suitability, intrinsic interest), and the careful matching between students and courses were the best predictors of low drop out rates.

Study times might also depend on factors external to tertiary education systems. Messer and Wolter (2007), using a dataset based on Swiss university graduates from 1981 to 2001, suggest that changes in the unemployment rate, real interest rate, wage levels, and economic growth have a significant impact on individual time-to-degree.

*Student selection at entry influence educational success in tertiary education*

Given that academic preparedness before entry into tertiary education is among the most important influences of educational success in tertiary education, raising academic entrance requirements is likely to lead to a greater proportion of students with successful completion of tertiary studies. However, higher degrees of selectivity are likely to limit overall access and might hinder equity of access (see Chapter 6). This leads to an important equity-efficiency trade-off. As pointed by Jacobs and van der Ploeg (2005), in less selective systems many first year students fail and real selection takes place within institutions of tertiary education. This might be interpreted as an inefficient use of resources. However, denying entry into tertiary education to a large proportion of those interested in accessing it while not providing alternatives (in education or in the labour market) adapted to their preferences and aptitudes is also likely to encompass high social costs. This highlights the importance of developing diverse systems of tertiary education which accommodate a diverse set of learners.

*Some arrangements improve the efficiency of studies of individual students*

As shown above, factors internal to institutions influence educational success of tertiary students. There is some evidence that the provision of targeted institutional support for individual students such as tutoring improves retention and graduation rates (see Chapter 6). Gansemer-Topf and Schuh (2006), in a study of institutions in the United States, find that institutional expenditures that contributed to students' academic integration were significant in contributing to retention and graduation rates.

There is some evidence that making the level of public subsidies for individual students conditional on student performance improves student completion rates and time to completion. Possible mechanisms are raising the level of tuition or limit access to financial aid if the student does not graduate within a specified number of years. For instance, in the Czech Republic, the 1998 Higher Education Act allowed institutions to charge fees as a penalty for students who stay in the institution beyond the standard length of the programme. Garibaldi *et al.* (2007), using data from an Italian university, examine the effect on the completion rates of students of introducing a scheme whereby tuition fees charged after the number of years expected for graduation (*continuation* fees) are significantly raised. The authors show that an increase of 1 000 Euros in the continuation fee reduces the probability of late graduation by at least 6.1% with respect to a benchmark average probability of 80%. They suggest that an increase in continuation tuition is efficient when effort is suboptimally supplied, for instance in the presence of public subsidies to education, limited capacity of institutions and/or peer effects. This can also be achieved with 'positive' incentives as in Norway where the public loan for tertiary studies can partially be turned into a grant (to a maximum of 40%) if students complete their programme within a prescribed time.[81] Nevertheless, it should be noted that these types of incentives expose another equity-efficiency trade-off. Indeed, some students such as immigrants with weak language skills might be at a disadvantage in securing their public subsidy (either in the form of lower fee or grant) if it is linked to student progression.

*Approaches to the funding of tertiary education influence the extent to which institutions seek to be cost-effective and the way they address the quantity-quality trade-off*

Funding policies and in particular mechanisms to allocate public funds to individual institutions condition the extent to which institutions seek to be cost-effective and the way they address the quantity-quality trade-off (see also Section 4.9). Some examples are:

- There might be cases in which institution management will not generally find in its interest to pursue cost-effective and efficient practices as when the government cream skims the cost savings or penalises efficiently operated institutions with lower future public funding. This might be especially the case for long-term investments in buildings and equipment (Jacobs and van der Ploeg, 2005).
- Institutional funding exclusively on the basis of the number of students might encourage institutions to favour quantity of enrolments over quality of courses. This might provide institutions with the incentive to deliver courses in ways that

81 As another example, Finland has introduced a tax benefit available to students who complete their studies within prescribed time limits, making payments of the loan deductible from taxes. Payments of the loan are deductible from taxes up to 30% of the loan amount exceeding 2 500 Euros. Completing one's degree within five years is a condition for qualifying for the deduction.

minimise expenditure (by cutting back quality). It might also lead to a tension between being financially viable - by enrolling as many students as possible in courses of high demand - and maintaining identity - by offering courses aligned with their profile.

- A rigid centrally-dictated remuneration system for academics might reduce incentives to reward excellence in teaching.
- As explained in Section 4.4.2, tuition fees as a market mechanism might improve efficiency as, for example, institutions are more likely to be responsive to the needs of students.
- Funding formulas that utilise average costs per student or normative costs are more likely to lead to a moderation in institutional costs per student than formulas that use actual costs per student which may encourage inefficient institutions to either spend more or restrict enrolments to increase their expenditures per student (Salmi and Hauptman, 2006).
- Performance-based allocation mechanisms such as performance contracts or payments for results also hold the prospect of moderating costs if this goal is included in the contracts or payment agreements (Salmi and Hauptman, 2006) (see Section 4.7.1).

## 4.12 Pointers for future policy development

This chapter has reviewed country approaches to the funding tertiary education, a number of principles for funding tertiary education established by economic theory, and the available empirical evidence on the impact of funding policies. It identified a range of promising funding initiatives used to steer tertiary education systems, support tertiary institutions and assist students.

The policy suggestions that follow are drawn from the experiences reported in the Country Background Reports, the analyses of external review teams, and the wider research literature. Not all of the policy implications apply equally to all reviewed countries. In a number of cases many or most of the policy suggestions are already in place, while for other countries they may have less relevance because of different social, economic and educational structures and traditions. The implications also need to be treated cautiously because in some instances there is not a strong enough research base across a sufficient number of countries to be confident about successful implementation. Rather, the discussion attempts to distil potentially useful ideas and lessons from the experiences of countries that have been searching for better ways to funding tertiary education. However, some common themes are evident in the country reforms now underway, namely that systems will be best served by the principles of cost-sharing, public subsidies allocated in relation to the benefits brought to society, access facilitated to all individuals apt to benefit from and willing to enter tertiary education, and rewards to those institutions whose missions are successfully accomplished.

It should be noted that it is not possible to meet all the recommended proposals since there are trade-offs between them. For instance, as noted earlier, there is a trade-off between the transparency of funding and the range of funding drivers necessary to improve the alignment with the government's various goals. Also, the more funding drivers are put in place to address the multiple objectives of governments, the more unintended effects might be created.

### *Develop a funding strategy that facilitates the contribution of the tertiary education system to society and the economy*

The overarching principle for the development of any funding strategy is that public funds steer the tertiary education system in a way that facilitates its contribution to society and the economy. This requires the definition of the goals and objectives of the system through which this contribution is realised.

#### *Make funding approach consistent with the goals of the tertiary education system*

A guiding principle is to design a funding approach to meet the policy goals sought for the tertiary education system – *e.g.* expansion, quality, cost effectiveness, equity, institutional or system capacity – which differ across countries at a given point in time. For example, if quality in teaching and learning is a goal pursued by the tertiary education system then the basis for funding instruction needs to include elements related to quality. Similarly, if equity is among the aims of the tertiary education system, substantial resources should go into schemes which encourage the participation of disadvantaged groups. The basis for funding needs to include elements related to the aspects pursued as a goal hence funding approaches might differ across countries.

#### *Ensure that the funding approach embraces a number of desirable features*

A funding approach is more likely to succeed in steering the tertiary education system if it is transparent, flexible, predictable, fair (to institutions, students and taxpayers), ensures public accountability, permits freedom to innovate, is sensitive to institutional autonomy, is demand-driven, recognises the missions of institutions, and is open to private institutions (in some circumstances).

#### *Articulate a long-term strategy*

A long-lasting vision for tertiary education should distinguish between policies to achieve short-term goals and those to meet longer term ambitions. The long-term strategy should include investment plans, schemes to raise additional resources, and identify programmes and policies that should receive priority for new public funds.

### *Use cost-sharing between the State and students as the principle to shape the funding of tertiary education*

#### *Provide public subsidies for tertiary education studies, regardless of sector of provision*

Tertiary education creates educational externalities to the benefit of society as whole in the form of economic growth, social cohesion and citizenship values and, as a result, should be financed by public money at least in part. But it does not follow that the public purse should bear a top-heavy share of the costs, especially because educational externalities at the tertiary level are likely to be limited when compared to the private benefits of tertiary education.

*Charge tuition fees to students, especially if limited public funding either ration the number of students, jeopardise levels of spending per student, or restrict financial support for disadvantaged groups*

In light of the evidence of the private benefits of a tertiary degree, graduates could bear some of the cost of the services offered by tertiary institutions. The case is stronger when limitations in the public funding of tertiary education lead to either the rationing of the number of students, the decline of instructional quality (as a result of declining expenditure per student), or the limited availability of funds for financially supporting disadvantaged groups. Cost-sharing allows systems to continue to expand with no apparent sacrifice of instructional quality, and makes institutions more responsive to student needs. Another benefit is that institutions become less reliant on tax-payer money and are able, within certain limits, to raise their own funds. The savings from the cost-sharing approach can also be used for broadening the access to tertiary education through strengthened student support systems.

*Tuition fees are less pressing when public funding levels do not ration the number of students, jeopardise levels of spending per student, and restrict financial support for disadvantaged groups*

There are countries with no tradition of tuition fees at tertiary level where the level of public resources has been adequate to permit the expansion of systems with no decline in expenditure per student and where the development of strong student support systems has effectively removed individuals' liquidity constraints. This requires high resource levels associated with high levels of taxation. In these circumstances, typically associated with an entrenched culture of free public provision of educational services, the introduction of tuition fees in tertiary education may deliver smaller benefits.

*Launch a public debate on the consequences of an heavy reliance on public money for funding tertiary education in countries with little tradition of tuition fees*

In a number of countries, several trends and competing priorities raise serious concerns about the sustainability of the heavy reliance on public money for funding tertiary education. The result is often that spending per student has declined, some qualified students do not find a place in the system, or student support systems are underdeveloped. Even in countries where there is little tradition of fees but signs exist that limited public finding is constraining tertiary education development, it might prove timely for education authorities to embark on a wide-ranging debate on the current approach to funding tertiary education. This could be organised in the larger context of debating the overall approach to publicly finance the different strands of the educational system. This debate would help clarify crucial issues for the financing of the tertiary sector such as: *(i)* whether the current heavy-reliance on public money is sustainable; *(ii)* whether private benefits are as low as to justify the modest levels of private contributions, especially of the more affluent students; and *(iii)* whether the public savings from greater private contributions of the more affluent students could consolidate the student support system. A key fact to inform the discussion is that to facilitate access it is enough to make tertiary education free for the individual during their studies, with a retroactive contribution after graduation.

*Consider tuition fee stabilisation policies to ensure cost containment and moderation*

Fee stabilisation policies might be appropriate to ensure cost containment and moderation. This might minimise the effects of institutional pricing strategies in a situation where student's entitlement to financial aid is tied to the total costs of attendance (the risk being that institutions raise more their fees if more financial aid becomes readily available to students). The fee stabilisation policy while precluding excessive fee escalation should still grant institutions some room for raising their own funds.

*Allow institutions to differentiate tuition fees across courses*

In countries where fees exist, allowing institutions to differentiate their tuition fees could make systems more responsive to student and employer preferences and generate efficiency gains. A possible model is to allow institutions to determine the level of fees for a programme on the basis of student demand and the cost of provision and to require them to make a price adjustment in relation to the public subsidy allocated to the particular programme, *i.e.* higher for fields identified of high priority. This requires reliable information for students on programmes, fee levels, quality and labour market outcomes.

***Publicly subsidise tertiary programmes in relation to the benefits they bring to society***

Another basis for funding tertiary education is the principle of allocating public funds in relation to the relevance to society at large. In ideal terms this would translate into the public funding of activities which generate educational externalities to the benefit of society as whole – irrespective of the nature of the provider – and levels of public funding which reflect the magnitude of educational externalities relative to private benefits. A notorious difficulty is the ability to assess the magnitude of educational externalities of specific programmes to establish the degree of public funding. There needs to be a better understanding of the public and private benefits from tertiary programmes as well as enhanced ways to identify offerings which better serve society at large.

*Establish broad principles to differentiate levels of public subsidies across programmes*

In practice it is difficult to make an accurate assessment of public and private benefits from tertiary programmes. But some approaches can be followed, including:

- High levels of public subsidies should go to study programmes identified as being in priority fields of high relevance (*e.g.* when there are shortages such as in teaching and nursing) while high demand programmes with high private returns to graduates should receive less subsidies.
- The approval of new programmes should be preceded by an assessment of relevance – *e.g.* whether they respond to labour market needs, foster innovation or serve communities' aspirations.
- The approach to ensuring relevance to society should also be closely interconnected with quality assurance mechanisms, since low-quality programmes are, for example, unlikely to be relevant to the labour market. Thus for an approach based on relevance to be successful, a robust system of quality assurance needs to be in place.

*Publicly subsidise tertiary education studies offered by private institutions*

Making educational externalities the rationale for the public funding of tertiary education also exposes why there is no economic argument to discriminate against those private institutions which offer properly accredited tertiary courses: a student receiving a degree from a private tertiary institution also generates educational externalities and therefore should receive similar levels of public funding than a student receiving the same degree from a public institution. While some countries have embraced this practice, in others it is not accepted often on the grounds that private institutions seek profit. In most countries, however, private institutions are publicly subsidised in some circumstances such as through the access of their students to publicly-funded financial aid systems, or through some special competitive research streams. The private sector also often plays an important role where there is insufficient capacity in the public system.

### *Make institutional funding for instruction formula-driven, related to both input and output indicators and including strategically targeted components*

*Base institutional block grants on transparent formulas based on a balanced array of input and output indicators*

The criteria for the distribution of funds to institutions need to be clear to all. This is best achieved through a transparent formula which shields allocation decisions from political pressures and tailors incentives to shape institutional plans in harmony with national goals.

The basis for allocating "core" funding to institutions, in particular that related to instruction, should to some extent be output-oriented to support excellence in teaching and learning. Indicators used in performance-based funding systems should relate to aspects to be enhanced in institutions such as internal efficiency (*e.g.* costs, completion rates) and external efficiency (*e.g.* quality of graduates). Performance indicators should also reflect public policy objectives rather than institutional needs and trigger incentives for institutional improvement. A wide range of indicators are used in countries which have implemented performance-based allocation mechanisms. Indicators more associated with study completion are student graduation/completion rates, number of credits accumulated by students, average study duration, ratio of graduates to beginners, or number of degrees awarded. Other indicators focus on the labour market outcomes of students: employment rates of graduates, extent to which employment is in a field related to the area of studies or student performance on licensure professional exams. Some countries also use stakeholders' views (*e.g.* employers, student, government, social partners) on programmes' effectiveness, including assessments of the quality of graduates and on the extent to which a range of needs are being met, as well as the degree of graduate satisfaction.

However, performance-based funding mechanisms should be carefully implemented to avoid undesired effects (*e.g.* lowered standards if funding linked to number of degrees awarded). Some prerequisites need to be in place for the successful introduction of performance-based funding. It is important to use simple measures which are more readily available and can easily and reliably be interpreted as measures of performance. Also, there should be administrative capacity in place to manage and interpret a great deal of information. Lastly, the measures being used should be transparent to all stakeholders involved. This highlights the need to achieve political agreement among a broad range of

stakeholders regarding the terms for introducing an output-based component for institutional funding.

One way to address concerns related to the use of performance-based funding is to develop a balanced funding mechanism based on a mix of input and output indicators. In this respect, it is important to note that as long as a number of conditions allowing students to "vote with their feet" are met, enrolment-based funding also provides incentives for improving the quality of programmes as a result of having institutions respond to the needs of students.[82] The more these conditions are met, the more it can be expected that an input-based funding approach would provide institutions with incentives for improving the quality of their programmes. The extent to which input measures are used should be related to the extent the above conditions are met.

It is important to ensure that financing arrangements allow student demand to have a significant influence both on the overall size and shape of tertiary education systems and provision at institutional level. This entails the financing on the basis of actual enrolments or graduations rather than pre-defined places in particular fields and levels of study. An important consideration here is the budgetary risk and uncertainty related to fluctuations in outlays flowing from changes in demand. Another best practice is the use of (a limited number of) funding coefficients that vary with fields of study on the basis of normative costs. Normative costs, by calculating what programmes ought to cost using optimal student/faculty ratios and other indices represent an important improvement over the more traditional approach of using actual costs per student.

*Consider a contractual relationship between institutions and the State*

A possible arrangement to allocate institutional funding is *performance agreements or contracts* negotiated between the State and individual institutions. Such agreements offer a way of translating the national objectives differentially into institutional plans, by stipulating, for a given period (say 3 years), the targets a given institution is expected to meet and the way the State would reward the institution for meeting the agreed targets. The negotiation of the contract could become a process whereby the government as a funding partner engages in a strategic discussion with institutions of tertiary education about directions and means. The contracts should be based on strategic plans and indicators of performance agreed between the institutions and the State. However, successfully designing and negotiating such performance agreements is complex and requires proper expertise within the ministries or agencies with authority for tertiary education. Performance contracts are more likely to succeed when a number of prerequisites are in place, including a tradition of negotiation between the State and individual institutions, agreements based on a limited number of targets for which simple measures of performance are available, administrative capacity in place to assess contract compliance, a commitment to avoid overly bureaucratic procedures and credibility of parties to ensure the enforcement of the contractual agreement.

82 These conditions are: *(i)* largely there are no restrictions on enrolment numbers in institutions; *(ii)* students have access to reliable information on programmes; *(iii)* credit recognition facilitates student mobility between institutions; *(iv)* tuition fees are high enough to trigger a wise choice of programme; and *(v)* student support systems allow for student's choice of institution (Jongbloed and Vossensteyn, 2001).

*Include targeted development programmes in institutional funding*

Another promising approach that can be highly effective in aligning the mission of institutions with the overall strategy for tertiary education is the introduction of programme-based targeted funding in addition to formula-based allocation systems. Under this arrangement, institutions apply and often compete for funds for programmes to promote specific policy objectives, *e.g.* introduction of innovative curricula, improvement of management practices, enhancement of collaboration with the private sector *etc*. The aim of development funds is to enable institutions to fund initiatives addressing challenges in priority areas with the needed flexibility to adjust to contingencies. However, it needs to be borne in mind that a multitude of targeted funds risks to reduce transparency and increase the transaction costs in the system.

A good case for using programme-based targeted funding is the support to the regional engagement of tertiary institutions with communities and local employers, the development of local entrepreneurial skills and technology transfer in the region. This financial support should emphasise trans-disciplinary approaches to local issues, and facilitate intra and inter-institutional collaboration among regional partners.

*Adjust institutional funding to the particular mission of institutions*

The basis for allocating funds to institutions should follow a tailored approach recognizing the diversity of roles and missions of institutions. For instance, if the mission of the institution stresses links to the community, a performance-based approach should consider including indicators such as the number of graduates in areas critical to the region or the number of faculty involved in community-related projects. This might prove useful in promoting greater diversity and specialisation among tertiary institutions, with possible gains in the efficiency with which available public funds are used.

*Give institutions autonomy in the use of their block grants*

A substantial proportion of institutional funding should be delivered directly to institutions as a bulk grant with institutions autonomously deciding on their internal allocation of resources. This gives institutions more flexibility and autonomy than line-item arrangements in determining how public funds are to be spent in attaining their strategic objectives. This presumes that institutions' governing bodies do have the authority to allocate internal funds according to institution-wide priorities rather than to merely pass the funds on to faculties which would focus on their particular interests.

*Provide stability in institutional funding to promote long-term development*

Stability and predictability in funding should be provided in such a way that institutions can engage in a strategic approach to their long-term development, consistent with their strengths and capabilities. An allocation mechanism that guarantees funding over several years is preferable to year-to-year allocations. This allows institutions to plan their investments and introduce reforms over the medium term in accordance with strategic plans. In this context, consideration should also be given to the implementation of arrangements which maintain the real (*i.e.* after inflation) value of funding rates per student over the life of funding agreements.

*Allow institutions to diversify sources of funding*

There is a need for institutions to diversify and enlarge their income from sources other than public funds and which are consistent with their mission. Clear guidelines between institutions and the educational authorities need to be drawn up in relation to how this is to be supported and encouraged. This also reflects the inevitable corollary of the adoption of the "third mission", especially in the context of regional development. Diversifying sources of funding is likely to be facilitated by an institutional legal status which enables the institution to behave entrepreneurially in terms of costing and pricing of activities; budget flexibility; swift decision-making on commercial possibilities; a market-oriented culture among the staff; and a responsive supply of educational programmes and research activities. Incentives for income generation can also take the form of matching funds linked to funding generated from outside sources and tax incentives to stimulate philanthropic and charitable giving to TEIs.

*Fund capital infrastructure with a number of different streams*

The funding of capital infrastructure in countries is often based in a number of different components which complement each other. Institutions' operating (block) grants to institutions should account for the upgrading of some capital infrastructure. In addition, targeted development programmes might also include schemes which seek to improve infrastructure. Another possibility is a multi-year plan for capital improvements, linked to national priorities. The criteria for capital priorities need not be identical to programme priorities, and can include factors such as regional economic growth, jobs, the preservation of buildings and sites of historic and cultural significance, and contributions to the civil society through the arts or service to communities.

***Improve cost-effectiveness***

Plans to increase funding in tertiary education should be preceded by steps to reduce inefficiencies throughout tertiary education systems. This could be achieved through linking funding more closely to graduation rates, reducing public subsidies of students who remain too long in the system, eliminating duplicated programmes, rationalising low-enrolment programmes with possible redeployment of academics across programmes, downsizing faculty to respond to falling student enrolments, increasing use of shared facilities, and expanding student mobility between institutions.

A particularly important objective is to create incentives to reduce non-completion rates and the length of study time. Responses in countries have included the conversion of a fraction of loans into grants in relation to students' success in completing their studies, tax benefits making payments of the loan deductible from taxes if studies are completed within a given time period and the rise of the private contribution (*e.g.* tuition fee) if a prescribed time limit is exceeded. As discussed earlier, given that these schemes might raise equity concerns, special provisions are needed for groups facing disadvantages in degree completion. Still care is needed when making an association between low completion rates or long study times with inefficiencies in the system. As explained earlier, not only there is a trade-off between access and completion but non-completion of a degree does not necessarily mean that skills and competencies valued by the labour market were not acquired.

The analysis also indicates that efficiency in tertiary education systems is likely to benefit from the co-operation between institutions; the alignment with secondary school

learning standards, curricula and offerings; institutional support for individual students; and a diverse system of tertiary education which accommodates a diverse set of learners.

### *Back the overall funding approach with a comprehensive student support system*

A student support system facilitates access by reducing liquidity constraints faced by students. A mixed system of grants and loans would assist students in covering tuition fees and living costs, alleviating excessive hours spent on part-time work, or disproportionate reliance on family support. In many countries student support systems need to be expanded, diversified and to place extra-emphasis on the financial need of students.

#### *Aim for a universal student support system with two major components: an income-contingent loan system complemented with a scheme of means-tested grants*

A solid student support system could be founded on a universal, income-contingent loan system complemented with a means-tested grants scheme. It would represent an important component in a system based on the principle of cost-sharing as it can offset the effects of high fees for academically qualified students who are financially needy.

#### *Design a universal loans system with income-contingent repayments and means-tested subsidies*

A far-reaching public student support system should encompass the development of an income-contingent loan scheme at the national level, open to full-time and part-time students alike. The loans reduce the liquidity constraints faced by individuals at the time of study while the income-contingent nature of the loans system would address the risk and uncertainty faced by individuals (insurance against inability to repay) and improve the progressiveness of the overall system (lower public subsidy for graduates with higher private returns). In such a system the repayments of graduates correspond to a proportion of their earnings. Low earners make low or no repayments and graduates with low lifetime earnings end up not repaying their loans in full. Given the initial massive investment such a scheme requires, it could be launched on a means-tested basis but should become universal as it reaches maturity.

A number of other features could make the loan scheme more effective. If no funds are available to satisfy the entire demand for loans, conferral should be on the basis of need. If subsidies on interest rates are to be provided, those should be given on the basis of financial need. There should be a maximum number of years during which interest rates are subsidised, an entitlement for students to borrow with a subsidy, and a larger loan entitlement at market interest rates (or the government's cost of borrowing). Students who receive grants should also be able to take up student loans, with the loan entitlement being abated by the amount of the grant.

#### *Base the grants scheme on an assessment of need*

To complement the loan scheme, the student grants scheme should promote the access of those with greater financial need but also those who underestimate the net benefits of tertiary education as a result of a socio-economic disadvantage (*e.g.* low-income family, parents with low education levels, poor information on benefits). The targeted nature of student grants should promote access by more vulnerable groups.

Eligible students should benefit from a limited entitlement (*e.g.* limited number of years). While, there can be an element of merit to keep the entitlement to a need-based grant (*e.g.* completion of a given number of credits), conferring grants solely on the basis of academic merit is not a good use of public resources. An equivalent way to assist needy students is to provide tuition waivers to designated students.

*Ensure that student aid entitlements cover living costs*

Ideally, the system would need to address to the full extent the financial barriers students face in accessing tertiary education, by raising both the loan entitlement and the student grant to levels adequate to cover tuition and living costs.

*Warrant access to the student support system to students in the public and private sectors alike*

Students who attend private institutions should benefit, under the same conditions, from the same basic financial support to cover living costs and tuition fees. This clearly facilitates students' freedom of choice and enables the development of institutions with distinct approaches and purposes. This should also be the corollary, in a number of countries, of the encouragement given to the expansion of a private sector of tertiary education as a way to reduce dependence on public funds.

*Consider the creation of an agency to manage the student support system*

As the student support system increases in complexity, it could prove useful to create an agency, within or outside the Ministry in charge of tertiary education, to be responsible for the administration and delivery of student loans and grants. Such an agency would define the terms and conditions for the operation of the overall student support system, including the criteria for the conferral of aid, the amounts to be awarded and the collection of repayments.

## *References*

Abbott, M. and C. Doucouliagos (2003), "The efficiency of Australian universities: a data envelopment analysis", *Economics of Education Review*, 22.

Agasisti, T. and C. Salerno (2007), "Assessing the Cost Efficiency of Italian Universities", *Education Economics*, 1 – 17.

Alon, S. (2007), "The influence of financial aid in leveling group differences in graduating from elite institutions", *Economics of Education Review, 26.*

Andrews, L. (1999), "The Effect of HECS on Access", Research Report, Department of Education, Employment, Training and Youth Affairs, Canberra.

Avery, C. and C. Hoxby (2003), *Do and should financial aid packages affect students' college choices?* Cambridge: NBER, Working Paper 9482.

Avkiran, N. (2001), "Investigating technical and scale efficiencies of Australian Universities through data envelopment analysis", *Socio-Economic Planning Sciences* , 35.

Barr, N. (2004), "Higher Education Funding", *Oxford Review of Economic Policy*, Vol. 20, N.2, pp. 264-283.

Baum, S. and D. Saunders (1998), *Life After Debt: Results of the National Student Loan Survey.* Nellie Mae, Braintree, MA.

Belot, M., E. Canton and D. Webbink (2004), *Educational choices and student support: The case of the Netherlands.* CPB Discussion Paper.

Bennett, R. (2003), *Determinants of Undergraduate Student Drop Out Rates in a University Business Studies Department*, Department of Business Studies, London Guildhall University.

Bettinger, E. (2004), *How financial aid affects persistence.* Cambridge: NBER, Working Paper 10242.

Canton, E. and A. Blom (2004), *Can Student Loans Improve Accessibility to Higher Education and Student Performance?*, World Bank Policy Research Working Paper 3425.

Canton, E. and F. de Jong (2005), "The demand for higher education in The Netherlands, 1950-1999", *Economics of Education Review, 24*.

Canton, E. and H. Vossensteyn (2001), "Deregulation of Higher Education: Tuition Fee Differentiation and Selectivity in the US", in C. a. CHEPS, *Higher Education Reform, Getting the Incentives Right* (pp. 67-84).

Chapman, B. (1997), Conceptual issues and the australian experience with income contingent charges for hgiher education. *The Economic Journal, 107*.

Chapman, B. (2006), "Income Contingent Loans for Higher Education: International Reforms", Chapter 25 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 2, Elsevier, Amsterdam.

Chapman, B. and C. Ryan (2002), *The access implications of income contingent charges for higher education; lessons from Australia*, The Australian National University, Centre for Economic Policy Research, Discussion paper No. 463 (http://econrsss.anu.edu.au/pdf/DP463.pdf)

Clark B. (1997), The Entrepreneurial University, Pergamon Press.

Cohn, E. and S. T. Cooper (2004), "Multi-product Cost Functions for Universities: Economies of Scale and Scope", in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Curtis, S. and N. Shani (2002), "The Effect of Taking Paid Employment During Term-time on Students' Academic Studies", *Journal of Further and Higher Education*, 26 (2).

Davies, J. L. (1987), *The Entrepreneurial and Adaptive University*, OECD 1987 Vol. 11. No. 1.

DEST (2003), *Higher Education report for the 2003 to 2005 triennium.* Canberra: Department for Education, Science and Training.

Dynarski, Susan M. (2003), "Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion", *American Economic Review* 93 (1): 279-288.

Dynarski, S. (2005), *Finishing College: The Role of State Policy in Degree Attainment.* Harvard University, Kennedy School of Government, mimeo.

Ehrenberg, R. and D. Sherman (1987), "Employment While in College, Academic Achievement, and Postcollege Outcomes", *Journal of Human Resources*, 22, No. 1, pp. 1–24.

Engert, F. (1996), "The reporting of school district efficiency: the adequacy of ratio measures", *Public Budgeting and Financial Management*, 8, pp. 247-271.

European Students´ Union (ESU) (2008), *Lisbon with students´ eyes*.

Eurostudent (2005), Social and Economic Conditions of Student Life in Europe 2005: Synopsis of Indicators, Hannover, HIS, Hochshul-Informations-System (available from www.his.de/Eurostudent/report2005.pdf)

Gansemer-Topf, A. and J. Schuh (2006), "Institutional Selectivity and Institutional Expenditures: Examining Organizational Factors that Contribute to Retention and Graduation", *Research in Higher Education*, 47 (6).

Garibaldi, P., F. Giavazzi, A. Ichino and E. Rettore (2007), "College Cost and Time to Complete a Degree: Evidence from Tuition Discontinuities", Working Paper 12863, NBER Working Paper Series, Cambridge, MA.

Hanushek, E. (1986), "The economics of schooling: production and efficiency in public schools", *Journal of Economic Literature*, 24, pp. 1141-1177.

Heller, D. (1997), "Student price response in higher education: an update to Leslie and Brinkman", *Journal of Higher Education, 68* (6).

Heller, D. (1999), "The effects of tuition and state financial aid on public college enrollment", *Review of Higher Education*, 23 (1): 65-89.

Heller, D. (2001), *Debts and Decisions: Student Loans and Their Relationship to Graduate School and Career Choice.* Lumina Foundation for Education, New Agenda Series, Indianapolis, IN.

Hood, A. B., A. Craig and B. Ferguson (1992), "The Impact of Athletics, Part-Time Employment, and Other Academic Activities on Academic Achievement", *Journal of College Student Development*, 33, pp. 447–53.

Hoxby, C. (1997), "How the changing market structure of U.S. Higher edcuation explains college tuition?", NBER Working Paper, No. 6323.

Hunt, A., I. Lincoln and A. Walker (2004), "Term-time employment and academic attainment: evidence from a large-scale survey of undergraduates at Northumbria University", *Journal of Further and Higher Education , 28* (1).

Jacobs, B. and F. van der Ploeg (2005), "Guide to Reform of Higher Education: A European Perspective", *Centre for Economic Policy Research Discussion Paper Series N. 5327*, available from www.cepr.org/pubs/dps/DP5327.asp

Johnes, J. (2004), "Efficiency Measurement", in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Johnes, J. (2006), "Measuring efficiency: a comparison of multilevel modelling and data envelopment analysis in the context of higher education", *Bulletin of Economic research*, 28 (2).

Johnstone, D. B. (2004), "The economics and politics of cost sharing in higher education: comparative perspectives", *Economics of Education Review*, 23, pp. 403-410.

Johnstone, D. B. (2006), "Financing Higher Education: Cost-Sharing in International Perspective", Boston College Center for International Higher Education, ICHEFAP, and SensePublishers, Rotterdam.

Jongbloed, B. and H. Vossensteyn (2001). Keeping up Performances: an International Survey of Performance-Based Funding in Higher Education. *Journal of Higher Education Policy and Management*, vol. 23 No.2.

Junor, S. and A. Usher (2004), *The Price of Knowledge*, Montreal: Canada Millennium Scholarship Foundation

Kalsner, L. (1991), "Issues in College student retention", *Higher Education Extension Service Review*, v3, n1.

Kane, T. (2006), "Public Intervention in Post-Secondary Education", Chapter 23 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 2, Elsevier, Amsterdam.

Kemp, S., J. Horward and D. Fergusson (2006), "Student loan debt in a New Zealand cohort study", *New Zealand Journal of Educational Studies*, 41(2), pp. 273-291.

Leslie, L. and P. Brinkman (1987), "Student price response in higher education", *Journal of Higher Education, 58* (2).

Leslie, L. and P. Brinkman (1988), *The Economic Value of Higher Education*, New York: American Council on Education and Macmillan.

Li, J. (1999), Estimating the effects of federal financial aid on college tuition: A study of Pell grants. Harvard University Dissertation.

Light, A. (1999), "High School Employment, High School Curriculum, and Post-School Wages", *Economics of Education Review* 18, No. 3, pp. 291–309.

Long, B. (2004), "How do Financial Aid Policies Affect Colleges? The Institutional Impact of the Georgia HOPE Scholarship", *The Journal of Human Resources, 39* (4).

Manski, C.F. and D.A. Wise (1983), *College Choice in America*, Cambridge, MA: Harvard University Press.

Marks, G. N., N. Fleming, M. Long, J. McMillan (2000), "Patterns of Participation in Year 12 and Higher Education in Australia: Trends and Issues", Longitudinal Surveys of Australian Youth, Research Report N. 17, ACER, Melbourne.

Martinez, P. (2001), *Improving Student Retention and Achievement: What do we Know and What do we Need to Find Out?* Learning and Skills Development Agency, London.

McElroy, L (2004). The Millennium Bursary in British Columbia: Exploring its Impact. Montreal: Canada Millennium Scholarship Foundation.

McMahon, W. W. (2004), "The Social and External Benefits of Education", in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

McPherson, M. S. and M.O. Schapiro (1991), "Does student aid affect college enrollment? New evidence on a persistent controversy", American Economic Review, 81, 309–318

McPherson, M.S. and M.O. Schapiro (1998), *The student aid game: Meeting need and rewarding talent in American higher education*, Princeton, NJ: Princeton University Press.

McPherson, M. S. and M.O. Schapiro (2006), "US Higher Education Finance", Chapter 24 in E. Hanushek and F. Welch (Eds.), *Handbook of the Economics of Education*, Volume 2, Elsevier, Amsterdam.

Messer, D. and S. Wolter (2007), "Time-to-Degree and the Business Cycle", IZA Discussion Paper No. 2787.

Metcalf, H. (2005), "Paying for university: the impact of increasing costs on student employoment, debt and satisfaction", *National Institute Economic Review, 191*.

Millett, C. (2003 ), "How undergraduate loan debt affects application and enrollment in graduate or first professional school", *Journal of Higher Education, 74* (4).

Monks, J. (2001), "Loan burdens and educational outcomes", *Economics of Education Review* , 20.

Naylor, R. and J. Smith (2004), "Determinants of educational success in higher education", in G. Johnes and J. Johnes (eds.), *International Handbook on the Economics of Education*, Edward Elgar, Cheltenham, United Kingdom.

Oberg, J. (1997), "Finding Evidence of the Student Grant Effect in a Natural Experiment", *Journal of Student Financial Aid*.

OECD (1998), *Education at a Glance: OECD Indicators 1998*, OECD, Paris.

OECD (2001), *Education at a Glance: OECD Indicators 2001*, OECD, Paris.

OECD (2004), *Education at a Glance: OECD Indicators 2004*, OECD, Paris.

OECD (2006), *OECD Revenue Statistics 1965-2005*, OECD, Paris.

OECD (2007a), *Education at a Glance: OECD Indicators 2007*, OECD, Paris.

OECD (2007b), *Higher Education and Regions: Globally Competitive and Regionally Engaged*, OECD, Paris.

OECD (2007c), *Reviews of National Policies for Education: Higher Education in Portugal*, OECD, Paris.

OECD (2008), "Policies to Enhance Investment in Higher Education", Chapter 5 in *Economic Policy Reforms: Going for Growth, 2008 edition*, OECD, Paris.

Paul, H. (1982), "The Impact of Outside Employment on Student Achievement in Macroeconomic Principles", *Journal of Economic Education*, 13, pp. 51–56.

Oliveira Martins, J., R. Boarini, H. Strauss, C. de la Maisonneuve and C. Saadi (2007), "The Policy Determinants of Investment in Higher Education", OECD Economics Department Working Papers, No. 576, Paris.

Rizzo, M. And R. Ehrenberg (2003), "Resident and nonresident tuition and enrollment at flagship state universities", Cambridge, MA: National Bureau of Economic Research, Working Paper 9516.

Robst, J. (2001), "Cost Efficiency in Public Higher Education Institutions", *Journal of Higher Education*, 72 (6).

Rolfe, H. (2003), "University Strategy in an Age of Uncertainty: The Effect of Higher Education Funding on Old and New Universities" *Higher Education Quarterly, 57* (1).

Rosen, H. S. (2005), *Public Finance*, 7th edition, McGraw-Hill, Chicago.

Ruhm, C. (1997), "Is High School Employment Consumption or Investment?", *Journal of Labor Economics* 15, No. 4, pp. 735–76.

Salerno, C. (2003), *What we know about the efficiency of higher education institutions: The best evidence*, The Center for Higher Education Policy Studies, University of Twente.

Salmi, J. and A. Hauptman (2006), "Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms", World Bank (forthcoming).

Schapiro, M., M. O'Malley and L. Litten (1991), "Progression to graduate school from the "elite" colleges and universities", *Economics of Education Review, 10* (3).

Scobie, G., J. Gibson and T. Le (2005), *Household wealth in New Zealand*, Wellington: Institute of Policy Studies, Victoria University of Wellington.

Seftor, N.S. and S.E. Turner (2002), "Back to School: Federal student aid policy abd adult college enrollment", Journal of Human Resources, 37 (2), 336-352.

Singell, L. and J. Stone, J. (2007), "For whom the Pell tolls: The response of university tuition to federal grants-in-aid", *Economics of Education Review, 26* (3).

Stinebrickner, R. and T. Stinebrickner (2003), "Working during School and Academic Performance", *Journal of Labor Economics*, 21 (2).

Smart, W. (2006), *Do student loans drive people overseas – what is the evidence?* Ministry of Education of New Zealand, Wellington, available from http://educationcounts.edcentre.govt.nz/publications/downloads/do-student-loans-drive-people-overseas.doc.

St. John, E.P (2003), *Refinancing the College Dream: Access, Equal Opportunity and Justice for Taxpayers*, Baltimore: Johns Hopkins University Press.

St. John, E.P. and J.B. Starkey (1995), "An alternative to net price: Assessing the influence of prices and subsidies on within-year persistence", *Journal of Higher Education*, 66 (2): 156-186.

Swail, W.S and D. Heller (2004), *Changes in Tuition Policy: Natural Policy Experiments in Five Countries*, Montreal: Canada Millennium Scholarship Foundation.

Tinto, V. (1975), "Dropout from Higher Education: A Theoretical Synthesis of Recent Research", *Review of Educational Research*, Vol. 45, No. 1, pp. 89-125.

Tinto, V. (1988), "Stages of Student Departure: Reflections on the Longitudinal Character of Student Leaving", *The Journal of Higher Education*, Vol. 59, No. 4, pp. 438-455.

Turner, S.E. (1997), "Does federal aid affect college costs? Evidence from the Pell program", unpublished paper.

Turner, S.E. (1998), "The vision and reality of Pell grants: Unforeseen consequences for students and institutions", in Gladieux, L.E. *et al.* (Eds.), *Memory, Reason, Imagination: A Quarter Century of Pell Grants*, The College Board, New York, pp. 49-65.

United States General Accounting Office (1994), *Restructuring Student Aid Could Reduce Low-Income Student Dropout Rate*, Washington.

Usher, A. (2004), *Are the Poor Needy? Are the Needy Poor?* Toronto: Educational Policy Institute. www.educationalpolicy.org/pdf/PoorNeedy.pdf

Usher, A. (2005), "Much Ado About a Very Small Idea: Straight Talk on Income-Contigent Loans", *Canadian Higher Education Report Series*, Educational Policy Institute; Toronto, Ontario.

Usher, A. (2006), "Grants for Students: What They Do, Why They Work", *Canadian Education Report Series*, Educational Policy Institute; Toronto, Ontario.

Usher, A. and A. Cervenan (2005), "Global Higher Education Rankings 2005", Educational Policy Institute; Toronto, Ontario.

Vossensteyn, H. (2002), "Shared Interests, Shared Costs: student contributions in Dutch higher education", *Journal of Higher Education Policy and Management , 24* (2).

Wetzel, J., D. O'Toole and S. Peterson (1998), "An Analysis of Student Enrollment Demand", *Economics of Education Review*, 17 (1).

Yu, P., R. Kippen and B. Chapman (2007), "Births, Debts and Mirages: The Impact of the Higher Education Contribution Scheme (HECS) and Other Factors on Australian Fertility Expectations", *Journal of Population Research*, Vol. 24, No. 1, pp. 73-90.