



# **Tertiary Education for the Knowledge Society**

## **OECD Thematic Review of Tertiary Education: Synthesis Report**

**Overview**



**April 2008**



The report *Tertiary Education for the Knowledge Society* provides a thorough international investigation of tertiary education policy across its many facets – governance, funding, quality assurance, equity, research and innovation, academic career, links to the labour market and internationalisation. Its specific concern is policies that ensure that capabilities of tertiary education contribute to countries’ economic and social objectives. The report draws on the results of a major OECD review of tertiary education policy – the OECD Thematic Review of Tertiary Education - conducted over the 2004-08 period in collaboration with 24 countries around the world (see Box 1). 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 report is intended to:

- Provide an international comparative analysis of tertiary education policy issues;
- Draw attention to effective policy initiatives in participating countries;
- Suggest a comprehensive framework to guide tertiary education policy development;
- Identify priorities for follow-up work at national, regional and international levels; and
- Propose policy directions.

#### **Box 1: Methodology and Country Participation**

The Review was based on participating countries working collaboratively with each other and with the OECD Secretariat. It involved examining country-specific issues and policy responses in tertiary education policy, and placing these experiences within a broader framework to generate insights and findings relevant to OECD countries as a whole. The collaborative approach provided countries with an opportunity to learn more about themselves by examining their experiences against those of other countries. It also added to the broader knowledge base by accumulating international evidence on the impact of policy reforms, and the circumstances under which they work best.

The Review involved two complementary approaches: an *Analytical Review strand*; and a *Country Review strand*. The Analytical Review strand used several means – country background reports, literature reviews, data analyses and commissioned papers – to analyse the factors that shape tertiary education and possible policy responses. All 24 participating countries were involved in this strand. In addition, fourteen countries chose to host a Country Review, which involved external review teams undertaking an intensive case study visit whose conclusions were then reflected in a Country Note.

The countries taking part in the project were:

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

*Country Review strand* (14 countries): China, Croatia, the Czech Republic, Estonia, Finland, Iceland, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland and Spain.

All documents produced through the Review are placed on the Review’s website: [www.oecd.org/edu/tertiary/review](http://www.oecd.org/edu/tertiary/review).

## 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 and knowledge development);
- 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 institutions 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, tertiary education institutions (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 of 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.

## **Main trends within tertiary education**

Although not all countries are in the same position, a number of trends within tertiary education emerged.

### *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. Average annual growth in tertiary enrolment over the period 1991-2004 stood at 5.1% worldwide.

### *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.

### *More heterogeneous student bodies*

The rise of female participation has been the most noteworthy trend affecting the composition of student bodies in tertiary education. A second prominent development is the growing participation of more mature students leading to a rise in the average age of student bodies. In addition, in most countries, tertiary student bodies are increasingly heterogeneous in terms of socio-economic background, ethnicity and previous education.

### *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. Second, the allocation of public funding for tertiary education is increasingly characterised by greater targeting of resources, performance-based funding, and competitive procedures. Third, a number of countries are expanding their student support systems.

### *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. Starting in the early 1980s quality became a key topic in tertiary education policy. The expansion of tertiary education has raised questions about the amount and direction of public expenditure for tertiary education. In addition to fiscal constraints, increased market pressures have also fostered the growing focus on accountability in tertiary education.

### *New forms of institutional governance*

Over the past few decades important changes have occurred in the leadership of tertiary education institutions, 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.

### *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.

## **Main policy challenges**

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 main policy challenges are listed in Table 1.

**Table 1: Main challenges in tertiary education**

<b>Domain</b>	<b>Main challenges</b>
<b>Steering tertiary education</b>	<ul style="list-style-type: none"> <li>– Articulating clearly the nation’s expectations of the tertiary education system.</li> <li>– Aligning priorities of individual institutions with the nation’s economic and social goals.</li> <li>– Creating coherent systems of tertiary education.</li> <li>– Finding the proper balance between governmental steering and institutional autonomy.</li> <li>– Developing institutional governance arrangements to respond to external expectations.</li> </ul>
<b>Funding tertiary education</b>	<ul style="list-style-type: none"> <li>– Ensuring the long-term financial sustainability of tertiary education.</li> <li>– Devising a funding strategy consistent with the goals of the tertiary education system.</li> <li>– Using public funds efficiently.</li> </ul>
<b>Quality of tertiary education</b>	<ul style="list-style-type: none"> <li>– Developing quality assurance mechanisms for accountability and improvement.</li> <li>– Generating a culture of quality and transparency.</li> <li>– Adapting quality assurance to diversity of offerings.</li> </ul>
<b>Equity in tertiary education</b>	<ul style="list-style-type: none"> <li>– Ensuring equality of opportunities.</li> <li>– Devising cost-sharing arrangements which do not harm equity of access.</li> <li>– Improving the participation of the least represented groups.</li> </ul>
<b>The role of tertiary education in research and innovation</b>	<ul style="list-style-type: none"> <li>– Fostering research excellence and its relevance.</li> <li>– Building links with other research organisations, the private sector and industry.</li> <li>– Improving the ability of tertiary education to disseminate the knowledge it creates.</li> </ul>
<b>The academic career</b>	<ul style="list-style-type: none"> <li>– Ensuring an adequate supply of academics.</li> <li>– Increasing flexibility in the management of human resources.</li> <li>– Helping academics to cope with the new demands.</li> </ul>
<b>Links with the labour market</b>	<ul style="list-style-type: none"> <li>– Including labour market perspectives and actors in tertiary education policy.</li> <li>– Ensuring the responsiveness of institutions to graduate labour market outcomes.</li> <li>– Providing study opportunities for flexible, work-oriented study.</li> </ul>
<b>Internationalisation of tertiary education</b>	<ul style="list-style-type: none"> <li>– Designing a comprehensive internationalisation strategy in accordance with country’s needs.</li> <li>– Ensuring quality across borders.</li> <li>– Enhancing the international comparability of tertiary education.</li> </ul>

## Main Policy Directions

To meet the challenges outlined above, the Report suggests a number of policy options. These policy suggestions 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 countries participating in the Review. 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.

### *Develop a coherent strategic vision 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. It would also require reflection, debate and consensus-building. A representative body could help reconcile the diverging interests of different stakeholders – government, institutions, students, teaching staff and scientific community, private sector and civil society – by having them work together towards recommendations for the medium and long term strategy for tertiary education.

### *Establish sound instruments for steering tertiary education*

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. 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. Instruments could be developed for steering that achieve accountability and also permit wide scope for institutional autonomy. Possible ways of meeting these two goals and optimise outcomes in the areas of quality, efficiency and system responsiveness include, for example, instruments such as performance contracts or performance-related funding.

Government control and 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 where there is extensive diversification*

Extensive and flexible diversification may provide countries with a wider capacity to address varied national needs – in terms of research and innovation, the developments of a skilled workforce, social inclusion and regional development – than a system of limited and fixed diversification. Thus, countries should review the structure of their tertiary education system, and 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.

Tertiary systems with a highly diverse institutional base require co-ordination mechanisms to avoid their fragmentation and the risk is that each sub-system evolves independently, leading the overall system to lose coherence. This reinforces the need for a co-ordinating body and incentives to ensure that institutions stick to their mission and profile.

### *Strengthen the ability of institutions to align with the national tertiary education strategy*

One simple way to encourage institutions to engage in more deliberate and focused self-management would be for the tertiary education authorities to require all institutions in receipt of public funding to prepare, and regularly update, meaningful strategic plans. These would be submitted both as a basis for accountability and to bid for targeted funding. These strategic plans could be disseminated internally and to the general public. 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 be achieved by permitting tertiary education institutions to be established as legal persons, or *within* the framework of state agency, by permitting innovations in contracting for services, labour relations, public auditing, and other areas.

At the same time, the 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 local 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. Granting some specific powers to this local 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.

### *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. 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. The basis for funding needs to include elements related to the aspects pursued as a goal hence funding approaches might differ across countries.

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). 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*

Tertiary education creates educational externalities to the benefit of society as a 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. 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. 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. In these circumstances, the introduction of tuition fees may deliver smaller benefits.

*Make institutional funding for instruction formula-driven, related to both input and output indicators and including strategically targeted components*

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 internal (*e.g.* costs, completion rates) and external (*e.g.* quality of graduates) efficiency. However, performance-based funding mechanisms should be carefully implemented to avoid undesired effects. It is important to use simple transparent indicators that are 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. 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.

*Back the overall funding approach with a comprehensive student support system*

A student financial support system facilitates access by reducing liquidity constraints faced by students. Students enrolled in public and private institutions should benefit from the same basic financial support to cover living costs and tuition fees in order to facilitate students' freedom of choice. In many countries student support systems need to be expanded, diversified and to place extra-emphasis on the financial needs of students. 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 could offset the effects of high fees for poorer students.

### *Design a quality assurance framework consistent with the goals of tertiary education*

It is important, in order to build a national commitment to quality, that the aim of the quality assurance system be clear and expectations be formulated in alignment with the tertiary education strategy. An effective, well co-ordinated quality assurance system would need to gather consensus among the different stakeholders based on shared expectations on purposes and outcomes.

### *Ensure that quality assurance serves both the improvement and accountability purposes*

There is also a balance to be struck between accountability and quality improvement. From an accountability point of view, it is important that quality assurance systems provide information to various stakeholders but quality assurance also needs to be/become a mechanism to enhance quality rather than simply force compliance with bureaucratic requirements. A balance between the two purposes of improvement and accountability is therefore crucial for the effectiveness of a quality assurance system and to maintain the support of academics. Revisiting the balance between accountability and improvement periodically would be desirable, *e.g.* to put less emphasis on accountability over time once there is evidence of stronger adherence to baseline standards.

### *Combine internal and external quality assurance mechanisms*

A combination of internal and external quality assurance mechanisms could be used to address the different purposes of quality assurance. One possible model for this may be to focus on improvement through external audits and internal quality assurance mechanisms while accountability would be addressed on the basis of performance indicators and verifying data in public databases. But clearly, other combinations are possible depending on countries' traditions and level of development of their quality assurance systems.

### *Put more stress on internal quality assurance mechanisms*

A strong quality culture in tertiary education institutions – shared by the academic leadership, staff and students – helps to reinforce the quality assurance system. Evidence suggests that a strong quality culture may develop through the (mandatory) creation of internal quality assurance systems by institutions or in response to appropriate incentives such as publishing student evaluations of their learning experience. It is also important to bring legitimacy to internal quality assurance mechanisms by having them formally validated periodically by an external assessment.

### *Assess the extent and origin of equity issues*

A coherent and systematic approach to equity would, in the first instance, assess where equity problems arise: whether they are related to income constraints faced by families and insufficient student support, inequity of opportunities at the school level, admissions issues, or other barriers such as the lack of knowledge about the benefits of tertiary education. This requires the systematic collection of data to inform the development of appropriate policies to reduce inequalities in tertiary education, *e.g.* the socioeconomic background of the tertiary student population, completion rates by family background, regional flow of students, student's part-time work, or the social and economic conditions of student life.

### *Make policy interventions to promote equity at much earlier stages*

The main reason why access to tertiary education may be inequitable is that young people from disadvantaged backgrounds do not attain the qualifications needed for entry into tertiary education. This means that policy intervention at much earlier educational levels may be more effective to address equity in tertiary education. Several policy instruments can improve the fairness and inclusiveness of schools systems, such as limiting early tracking and academic selection, removing dead ends, offering second chances to gain from education or providing systematic help to those who fall behind at school. Developing grants at upper secondary level for students from disadvantaged backgrounds to prevent dropout, targeting resources at the students with the greatest needs and strengthening school career guidance to shape their aspirations and expectations are other policy options.

### *Improve knowledge diffusion rather than strengthening commercialisation*

There has been, in recent years, a stronger policy emphasis on the commercialisation of university R&D results. In essence, such measures assume that innovation is the outcome of a discovery process that is then commercialised, and that R&D is the initiating phase of innovation. However innovation often has wider origins in the development of new product concepts by firms, and R&D is a problem-solving activity along the 'innovation journey' rather than a point of departure for it. This suggests that the diffusion capabilities and interactive support activities of tertiary institutions may be at least as important, and methods and instruments for such support deserve closer policy consideration.

### *Improve and widen channels of interaction and encourage inter-institutional collaboration*

Linkages and collaboration between the tertiary education sector and other actors in the research and innovation system need to be further developed, with the aim of improving knowledge diffusion. The tertiary education sector should be flexible and responsive to industry needs in terms of co-operative projects, and policy needs to ensure that small and medium-sized enterprises (SMEs) and firms from all technological sectors are considered when programmes are designed. While most partnerships with industry tend to have a research or innovation focus, they can be broadened to include industry representation on boards of management or an advisory role of industry in curriculum design.

### *Use the tertiary education sector to foster the internationalisation of R&D*

Until recently, R&D policy has largely been national in scope, often supporting the development of critical knowledge bases and technologies or particular national specialisations. However, the internationalisation of R&D is now a key dimension of globalisation, with a major role of multinational enterprises (MNEs) in this process. MNEs are increasingly establishing R&D facilities at many locations worldwide. These changes have important implications on tertiary education policies because innovation and research networks span national boundaries. A key policy problem is how to integrate essentially national measures and instruments – such as education and training policies and infrastructure policies – and companies’ globalised knowledge strategies.

### *Give institutions ample autonomy over the management of human resources*

In today’s systems of tertiary education, individual institutions pursue a diversity of missions, exhibit a variety of strategies to accomplish their objectives, face different circumstances and have needs which are particular to them. They are being asked to provide swift responses to society’s demands in an increasingly competitive environment. More and more they are also being held accountable for the use of scarce public resources while being given more formal autonomy. In a number of countries governmental regulations still considerably delimit institutions’ autonomy over the management of their human resources, creating inflexibilities and limiting them in finding responses to the challenges they face. Institutions are likely to be more effective in achieving their mission if they benefit from ample autonomy in the area of human resource management, *e.g.* with faculty and staff being formal employees of institutions, institutions having broad discretion over the setting of academic salaries, the freedom to create academic positions in line with their strategy, the ability to determine the career structures which reflect the distinct roles academics play within them (including the balance between teaching and research), and the design of promotion, assessment and professional development strategies.

In this context of ample autonomy over the management of human resources, the role of national legislation should focus on principles rather than specific processes. The transparency of staff appointment, promotion and performance appraisal processes should be given particular attention, *e.g.* principle of open competition for positions, selection on the basis of merit, external assessors for senior positions.

### *Reconcile academic freedom with institutions’ contributions to society*

Academic freedom has been, according to some groups, under threat as a result of a number of trends within tertiary education such as the growing share of private funding, the increased focus on accountability and performance and new approaches to institutional management. At the same time, institutions are under pressure to use public funds to the benefit of society as a whole. This calls, in most countries, for a re-conceptualisation of what comprises academic work. In this context, academic freedom needs to be framed within institutions’ obligation to society, *e.g.* with academics pursuing their objectives while accounting for institutional goals, being provided with support and conditions to meet these goals. Academics also ought to have autonomy in the design of the courses they teach and freedom to select research topics and approaches to research – possibly within priorities defined at the institution or system level. They should not be constrained in their interpretation of research results or prevented from publicising them;

this greater freedom ought to go together with greater accountability for the outcomes of their academic activities.

### *Improve data and analysis about graduate labour market outcomes*

The insufficiency of data and analysis with respect to graduate labour market outcomes impairs student adaptation to labour market signals, the capacity of public officials to adapt resource allocation to labour market needs, and the ability of tertiary institutions to systematically learn about and respond to labour markets. Serious consideration should therefore be given to substantially greater investment in data collection with respect to labour market outcomes, *e.g.* wages and employment among recent graduates disaggregated by field of study, labour force participation rates, unemployment rates, working hours, and vacancy rates. Public data systems should also permit the tracking of long-term graduate labour market outcomes so that institutions and public officials can monitor the labour market outcomes of their graduates both in the short-term and the long-term, including career mobility, occupational change, and job mismatch and over-education.

### *Increase the ability of institutions to respond to demand*

Information alone is not sufficient to ensure that tertiary education responds to labour market signals. The funding methodologies established by public authorities must create incentives for institutions to respond to enrolment demand, and the internal resource allocation capacities of tertiary institutions must have the *scope* to reallocate resources in response to enrolment choices. In some tertiary systems institutional leaders lack the authority and autonomy to shift instructional capacity to fields of high demand – *e.g.* where individual faculties are legally or effectively independent of the wider university in their operation – and bottlenecks develop. Public officials can devise management information systems that generate evidence of institutional performance in meeting enrolment demand (*e.g.* student queues for course entry) and encourage institutional governance arrangements that allow for efficiency in the allocation of resources.

### *Develop a national strategy and comprehensive policy framework for internationalisation*

The background for internationalisation varies considerably across countries according to their economic and political power, size and geographic location, dominant culture, the quality and typical features of their tertiary education system, the role their language plays internationally, as well as their previous internationalisation policies. In this context, it is important for countries to develop a national strategy or master plan for internationalisation in light of their country-specific goals in the tertiary education sector, but also beyond education (human resources development, research and innovation *etc.*). Obviously, this strategy needs to adapt to country-specific circumstances, building upon natural advantages and acknowledging constraints, and there is no ideal internationalisation strategy other than maximising the benefits of internationalisation in the national context. The main difficulty is to resist the temptation to replicate models designed for countries facing very different circumstances and fine tuning is needed to find the right balance between different forms of internationalisation and decide where to put efforts.

### *Develop on-campus internationalisation*

Policy initiatives and institutions' efforts should be targeted at the development of on-campus internationalisation, in recognition that only a small proportion of students take part in international mobility. This can be done by allowing and encouraging institutions to deliver part of their programmes in foreign languages and to intensify international enrolments in order to widen the scope for intercultural exchanges on-campus. These kinds of curriculum offerings should however be developed at the initiative of institutions, while the scope for public policy would lie in providing models of global education and technical assistance. International perspectives and cross-cultural exchanges may also be brought through the academic staff delivering lectures and classes, by a more active policy of recruiting foreign academics in tertiary institutions, through reforms of career and recruitment policies, international agreements on the transfer of pension rights, or greater flexibility in academic salary scales. Joint programmes with foreign institutions also have the potential to expose domestic students to different views and teaching styles.

### *Take advantage of international complementarities*

It is important to take advantage of complementarities between systems of tertiary education. Indeed, highly specialised programmes in one system may train students whose home system is either less specialised in a specific domain or lacks it entirely. The principle of inter-system complementarities has implications for international mobility since public support for degree-mobility might need to be targeted to postgraduate studies or undergraduate programmes unavailable at home. Public support to student mobility at the undergraduate level of education might be better spent on promoting wider participation in shorter-term exchanges in an equity perspective.

### *Create conditions for the successful implementation of reforms*

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

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

*Improve communication on the benefits of reforms and the costs of inaction*

Finally, there is also a case for improving and strengthening communication on tertiary education problems as well as reform proposals to address them. This includes dissemination of the evidence basis underlying the policy diagnosis, research findings on alternative policy options and their likely impact, as well as information on the costs of reform vs. inaction.

Such communication and dissemination is critical to gain the support of society at large for tertiary education reforms, not just the stakeholders with a direct interest – *i.e.* TEIs, students or academics. Such dissemination may be enhanced through national public discussions as well as media communication strategies. Indeed, evidence suggests that individuals and groups are more likely to accept changes that are not necessarily in their own best interests if they have a chance to participate in the debate and believe that the process has been transparent.

## *Appendix: Summary of Policy Directions*

**Table 2a: Policy directions for steering tertiary education**

<b>Steering tertiary education: setting the right course</b>	
<b>General Policy Directions</b>	<b>Targeted Policy Directions</b>
Develop a coherent strategic vision for tertiary education	<ul style="list-style-type: none"> <li>◦ Devise a statement of strategic aims for tertiary education</li> <li>◦ Draw on a comprehensive advisory body to establish strategic aims for tertiary education</li> </ul>
Establish sound instruments for steering tertiary education	<ul style="list-style-type: none"> <li>◦ Ensure that the capabilities of tertiary education authorities keep pace with changing responsibilities</li> <li>◦ Develop steering instruments to establish a balance between institutional autonomy and public accountability</li> <li>◦ Use student choice as a means by which to improve quality and efficiency</li> </ul>
Ensure the coherence of the tertiary education system with extensive diversification	<ul style="list-style-type: none"> <li>◦ Grasp the benefits of wider and more flexible diversification among tertiary institutions</li> <li>◦ Avoid the fragmentation of the tertiary education system</li> <li>◦ In systems with vocationally-oriented sectors, ensure that mechanisms exist to discourage academic drift</li> <li>◦ Limit barriers to entry and assess the contribution of individual institutions through quality assurance arrangements</li> </ul>
Build system linkages	<ul style="list-style-type: none"> <li>◦ Ensure appropriate co-ordination between secondary and tertiary education systems</li> <li>◦ Review whether the tertiary education system is contributing effectively to lifelong learning</li> <li>◦ Build linkages between different types of TEIs</li> <li>◦ Foster the engagement of institutions with surrounding regions and communities</li> </ul>
Strengthen the ability of institutions to align with the national tertiary education strategy	<ul style="list-style-type: none"> <li>◦ Ensure the outward focus of institutions</li> <li>◦ Require institutions to establish strategic plans</li> <li>◦ Examine how best to widen the scope of institutional autonomy</li> <li>◦ Create a national policy framework towards institutional governance that allows institutions to effectively manage their wider responsibilities</li> </ul>
Build consensus over tertiary education policy	<ul style="list-style-type: none"> <li>◦ Develop an evidence basis to inform policy making</li> <li>◦ Widen consultation within government to ensure coherence across policies to support national tertiary goals</li> <li>◦ Widen consultation with those outside government to ensure that voices other than those of “producers” are heard</li> </ul>

Table 2b: Policy directions for matching funding strategies with national priorities

Matching funding strategies with national priorities	
General Policy Directions	Targeted Policy Directions
Develop a funding strategy that facilitates the contribution of the tertiary education system to society and the economy	<ul style="list-style-type: none"> <li>◦ Make funding approach consistent with the goals of the tertiary education system</li> <li>◦ Ensure that the funding approach embraces a number of desirable features</li> <li>◦ Articulate a long-term strategy</li> </ul>
Use cost-sharing between the State and students as the principle to shape the funding of tertiary education	<ul style="list-style-type: none"> <li>◦ Provide public subsidies for tertiary education studies, regardless of sector of provision</li> <li>◦ 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</li> <li>◦ 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</li> <li>◦ 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</li> <li>◦ Consider tuition fee stabilisation policies to ensure cost containment and moderation</li> <li>◦ Allow institutions to differentiate tuition fees across courses</li> </ul>
Publicly subsidise tertiary programmes in relation to the benefits they bring to society	<ul style="list-style-type: none"> <li>◦ Establish broad principles to differentiate levels of public subsidies across programmes</li> <li>◦ Publicly subsidise tertiary education studies offered by private institutions</li> </ul>
Make institutional funding for instruction formula-driven, related to both input and output indicators and including strategically targeted components	<ul style="list-style-type: none"> <li>◦ Base institutional block grants on transparent formulas based on a balanced array of input and output indicators</li> <li>◦ Consider a contractual relationship between institutions and the State</li> <li>◦ Include targeted development programmes in institutional funding</li> <li>◦ Adjust institutional funding to the particular mission of institutions</li> <li>◦ Give institutions autonomy in the use of their block grants</li> <li>◦ Provide stability in institutional funding to promote long-term development</li> <li>◦ Allow institutions to diversify sources of funding</li> <li>◦ Fund capital infrastructure with a number of different streams</li> </ul>
Improve cost-effectiveness	
Back the overall funding approach with a comprehensive student support system	<ul style="list-style-type: none"> <li>◦ Aim for a universal student support system with two major components: an income-contingent loan system complemented with a scheme of means-tested grants</li> <li>◦ Design a universal loans system with income-contingent repayments and means-tested subsidies</li> <li>◦ Base the grants scheme on an assessment of need</li> <li>◦ Ensure that student aid entitlements cover living costs</li> <li>◦ Warrant access to the student support system to students in the public and private sectors alike</li> <li>◦ Consider the creation of an agency to manage the student support system</li> </ul>

**Table 2c: Policy directions for assuring and improving quality**

<b>Assuring and improving quality</b>	
<b>Domain</b>	<b>Targeted Policy Directions</b>
Design of the quality assurance framework	<ul style="list-style-type: none"> <li>◦ Design a quality assurance framework consistent with the goals of tertiary education</li> <li>◦ Build consensus on clear goals and expectations of the quality assurance system</li> <li>◦ Ensure that quality assurance serves both the improvement and accountability purposes</li> <li>◦ Combine internal and external quality assurance mechanisms</li> <li>◦ Build capacity and secure legitimacy</li> <li>◦ Make stakeholders such as students, graduates and employers visible in the evaluation procedures</li> <li>◦ Increase focus on student outcomes</li> <li>◦ Enhance the international comparability of the quality assurance framework</li> </ul>
Internal evaluation	<ul style="list-style-type: none"> <li>◦ Develop a strong quality culture in the system</li> <li>◦ Put more stress on internal quality assurance mechanisms</li> <li>◦ Ensure that internal accountability is guided by some key principles</li> <li>◦ Undertake the external validation of internal quality assurance systems</li> </ul>
External evaluation	<ul style="list-style-type: none"> <li>◦ Commit external quality assurance to an advisory role as the system gains maturity...</li> <li>◦ ... but retain strong external components in certain contexts</li> <li>◦ Implement adequate follow-up procedures and view quality assurance as a continuous process</li> <li>◦ Allow for selected assessments to be initiated by an external quality assurance agency</li> <li>◦ Avoid direct links between assessment results and public funding decisions</li> </ul>
Methods	<ul style="list-style-type: none"> <li>◦ Align quality assurance processes to the particular profile of TEIs</li> <li>◦ Improve co-ordination between the evaluation of teaching and research</li> <li>◦ Innovation</li> <li>◦ Develop quality assurance expertise in new areas</li> </ul>
Practical arrangements for the quality assurance system	<ul style="list-style-type: none"> <li>◦ Avoid fragmentation of the quality assurance organisational structure</li> <li>◦ Avoid excessive costs and burdens</li> <li>◦ Improve quality information base</li> <li>◦ Improve information dissemination</li> </ul>

**Table 2d: Policy direction for enhancing the role of tertiary education in research and innovation**

<b>Enhancing the role of tertiary education in research and innovation</b>
<b>Targeted Policy Directions</b>
<ul style="list-style-type: none"> <li>◦ Improve knowledge diffusion rather than strengthening commercialisation via stronger IPRs</li> <li>◦ Improve and widen channels of interaction and encourage inter-institutional collaboration</li> <li>◦ Foster mobility across the research and innovation system</li> <li>◦ Develop policies for both international as well as intra-national mobility</li> <li>◦ Improve research career prospects</li> <li>◦ Monitor the supply and demand of human resources</li> <li>◦ A variety of skills are needed for innovation</li> <li>◦ Maintain adequate research infrastructure</li> <li>◦ Use the tertiary education sector to foster the internationalisation of R&amp;D</li> <li>◦ Improve methods for priority selection</li> <li>◦ Broaden the criteria used in research assessments</li> <li>◦ Ensure the shift towards project-based funding is monitored and provide a mix of funding mechanisms</li> <li>◦ Research and innovation policies require a long-term perspective</li> <li>◦ Evaluate and co-ordinate policy instruments across the research and innovation system</li> </ul>

**Table 2e: Policy directions for achieving equity**

<b>Achieving Equity</b>
<b>Targeted Policy Directions</b>
<ul style="list-style-type: none"> <li>◦ Assess extent and origin of equity issues</li> <li>◦ Making tertiary education more equitable requires policy to intervene much earlier</li> <li>◦ Career guidance and counselling services at the school level are instrumental in improving equity of access</li> <li>◦ Provide opportunities for tertiary education study from any track in upper secondary school</li> <li>◦ Strengthen the integration of planning between secondary and tertiary education systems</li> <li>◦ Diversify the supply of tertiary education to accommodate a more diverse set of learners</li> <li>◦ Consider alternative types of provision to account for the cultural diversity of the population</li> <li>◦ Improve the access to tertiary education in remote areas by expanding distance learning and regional learning centres</li> <li>◦ Diversify criteria for admission and give a say to TEIs in entrance procedures</li> <li>◦ Consider positive discrimination policies for particular groups whose prior educational disadvantage is well identified</li> <li>◦ Consider alternative ways of acquiring eligibility for tertiary education</li> <li>◦ Improve transfers between different types of TEIs within tertiary education</li> <li>◦ Provide incentives for TEIs to widen participation and provide extra support for students from disadvantaged backgrounds</li> <li>◦ Encourage TEIs to be more responsive to the needs of adult learners</li> <li>◦ Sustain efforts to improve gender parity at all levels of tertiary education and address gender stereotyping in subject choice</li> <li>◦ Grant special provisions for students with disabilities</li> <li>◦ Place more emphasis on equity of outcomes</li> </ul>

**Table 2f: Policy directions for the academic career**

<b>Academic career: adapting to change</b>
<b>Targeted Policy Directions</b>
<ul style="list-style-type: none"> <li>◦ Give institutions ample autonomy over the management of human resources</li> <li>◦ Manage the academic career in a flexible manner</li> <li>◦ Reconcile academic freedom with institutions' contributions to society</li> <li>◦ Enhance the attractiveness of the academic career</li> <li>◦ Improve the entrance conditions of young academics</li> <li>◦ Strengthen management processes and leadership</li> <li>◦ Evaluate and reward the accomplishments of academics</li> <li>◦ Integrate professional development throughout the career</li> <li>◦ Develop mechanisms to support the work of academics</li> <li>◦ Enhance the capacity for collaboration and encourage mobility</li> <li>◦ Provide more flexible employment conditions for senior academics</li> </ul>

**Table 2g: Policy directions for strengthening ties with the labour market**

<b>Strengthening ties with the labour market</b>
<b>Targeted Policy Directions</b>
<ul style="list-style-type: none"> <li>◦ Coordinate labour market and education policies</li> <li>◦ Improve data and analysis about graduate labour market outcomes</li> <li>◦ Strengthen career services at secondary and tertiary educational levels</li> <li>◦ Reinforce the capacity of institutions to respond to labour demand</li> <li>◦ Enhance provision with a labour market orientation</li> <li>◦ Include labour market perspectives and actors in policy development and institutional governance</li> <li>◦ Encourage tertiary education institutions to play a greater role in lifelong learning</li> <li>◦ Explore the potential of a National Qualifications Framework</li> </ul>

**Table 2h: Policy directions for shaping internationalisation strategies in the national context**

<b>Shaping internationalisation strategies in the national context</b>	
<b>Domain</b>	<b>Targeted Policy Directions</b>
Overall strategy and steering of internationalisation policy	<ul style="list-style-type: none"> <li>◦ Develop a national strategy and comprehensive policy framework for internationalisation</li> <li>◦ Improve national policy coordination</li> <li>◦ Encourage TEIs to become proactive actors of internationalisation</li> <li>◦ Promote sustainable strategies of internationalisation</li> <li>◦ Create structures to assist TEIs in their internationalisation strategies</li> </ul>
Attractiveness and international competitiveness of the tertiary education system	<ul style="list-style-type: none"> <li>◦ Create structures to promote the national tertiary education system</li> <li>◦ Enhance the international comparability of tertiary education</li> <li>◦ Develop alternatives to current global rankings</li> <li>◦ Improve information to prospective international students</li> <li>◦ Foster centres of excellence at post-graduate level...</li> <li>◦ ... but ensure quality provision in under-graduate cross-border education as well</li> </ul>
Internal dimension of internationalisation	<ul style="list-style-type: none"> <li>◦ Develop on-campus internationalisation</li> <li>◦ Encourage the mobility of domestic academic staff and students</li> </ul>
Optimisation of internationalisation strategy	<ul style="list-style-type: none"> <li>◦ Inform policy-making in the area of internationalisation</li> <li>◦ Take advantage of international complementarities</li> <li>◦ Manage the migration impact of internationalisation</li> </ul>

**Table 2i: Implications for policy implementation**

<b>Implications for policy implementation</b>	
<b>Domain</b>	<b>Targeted Policy Directions</b>
Development of tertiary education policy and reform	<ul style="list-style-type: none"> <li>◦ Establish ad-hoc independent committees to initiate tertiary education reforms and involve stakeholders</li> <li>◦ Allow for bottom-up policy initiatives to be developed into proposals by independent committees</li> <li>◦ Recognise the different views of stakeholders through iterative policy development</li> </ul>
Search for consensus or compromise over tertiary education policy and reform	<ul style="list-style-type: none"> <li>◦ Use pilots and policy experimentation when needed</li> <li>◦ Favour incremental reforms over comprehensive overhauls unless there is wide public support for change</li> <li>◦ Avoid reforms with concentrated costs and diffused benefits</li> <li>◦ Identify potential losers from tertiary education reform and build in compensatory mechanisms</li> <li>◦ Create conditions for the successful implementation of reforms</li> <li>◦ Improve communication on the benefits of reforms and the costs of inaction</li> </ul>
Implementing tertiary education policy and reform successfully	<ul style="list-style-type: none"> <li>◦ Implement the full package of policy proposals</li> <li>◦ Support effective policy implementation</li> </ul>