Tertiary Education for the Knowledge Society

POINTERS FOR POLICY DEVELOPMENT

OECD
BETTER POLICIES FOR BETTER LIVES

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These Pointers for Policy Development are drawn from the Thematic Review of Tertiary Education, which covered tertiary education policies in 24 countries. The findings of this review are presented in *Tertiary Education for the Knowledge Society*, published in September 2008.

Background reports prepared by 21 countries, *Reviews of Tertiary Education* in 14 countries and other documents of the review are also available on the OECD website www.oecd.org/edu/tertiary/review.

Main challenges and policy directions in tertiary education

MAIN CHALLENGES IN TERTIARY EDUCATION

➢ Articulating clearly the nation's expectations of the tertiary education system and aligning priorities of individual institutions with the nation's economic and social goals. Creating coherent systems of tertiary education, finding the proper balance between governmental steering and institutional autonomy and developing institutional governance arrangements to respond to external expectations.

➢ Ensuring the long-term financial sustainability of tertiary education, devising a funding strategy consistent with the goals of the tertiary education system and using public funds efficiently.

➢ Strengthening quality of tertiary education by developing quality assurance mechanisms for accountability and improvement, generating a culture of quality and transparency and adapting quality assurance to diversity of offerings.

➢ Ensuring equality of opportunities in tertiary education, devising cost-sharing arrangements which do not harm equity of access and improving the participation of the least represented groups.

➢ Fostering research excellence and its relevance, building links with other research organisations, the private sector and industry and improving the ability of tertiary education to disseminate the knowledge it creates.

➢ Ensuring an adequate supply of academics, increasing flexibility in the management of human resources and helping academics to cope with the new demands.

➢ Including labour market perspectives and actors in tertiary education policy, ensuring the responsiveness of institutions to graduate labour market outcomes and providing study opportunities for flexible, work-oriented study.

➢ Designing a comprehensive internationalisation strategy in accordance with country's needs, ensuring quality across borders and enhancing the international comparability of tertiary education.

MAIN POLICY DIRECTIONS FOR TERTIARY EDUCATION

Across OECD countries some main policy directions emerge to address the above challenges. In some countries, many of these policy directions are already being pursued. In other countries they may be less relevant because of different social, economic and educational structures and traditions.

Many of these policy directions are inter-related. Tackling one area without taking account of this will lead to only partial results. Even so, it is difficult to address all areas at once and resource constraints mean that trade-offs are inevitable.

Main policy directions are:

➢ Steering tertiary education: setting the right course

➢ Matching funding strategies with national priorities

➢ Assuring and improving quality

➢ Achieving Equity

➢ Enhancing the role of tertiary education in research and innovation

➢ Academic career: adapting to change

➢ Strengthening ties with the labour market

➢ Shaping internationalisation strategies in the national context

➢ Implementing tertiary education policy

Steering tertiary education

➢ Undertake a systematic national strategic review of tertiary education and produce a clear statement of its strategic aims

➢ Communicate vision for tertiary education clearly and effectively so that all relevant parties see the role that they should play within the broader policy framework

➢ Draw on a comprehensive advisory body to establish strategic aims for tertiary education
   − create a body, e.g. 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
   − strengthen this body by involving international experts to provide an international perspective on problems faced by tertiary education and examine ways of addressing them

ESTABLISH SOUND INSTRUMENTS FOR STEERING TERTIARY EDUCATION

➢ Ensure that the capabilities of tertiary education authorities keep pace with changing responsibilities
   − strengthen tertiary education authorities' capacities in data collection and analysis, policy experimentation and policy analysis
   − reinforce the steering capacity of tertiary education authorities through the development and administration of financing instruments and the review and monitoring of outcomes

➢ Develop steering instruments to establish a balance between institutional autonomy and public accountability
   − Possible ways are performance contracts, performance-related funding or targeted funding
   − avoid detailed annual reporting requirements in favour of tailor-made strategic forms of accountability

➢ Use institutional competition and student choice to help improve quality and efficiency and to achieve stronger performance from the tertiary system

ENSURE COHERENCE OF THE TERTIARY EDUCATION SYSTEM WITH EXTENSIVE DIVERSIFICATION

➢ Grasp the benefits of wider and more flexible diversification among tertiary institutions
   − clearly define the mission and profile of individual institutions in accordance with this diversification strategy
   − 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
   − establish 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

➢ Avoid the fragmentation of the tertiary education system
   − ensure co-ordination mechanisms between tertiary education institutions
   − improve the ways in which institutions collaborate to create a more coherent system

➢ In systems with vocationally-oriented sectors, ensure that mechanisms exist to discourage academic drift
   − ensure sufficient rewards to discourage academic drift
   − ensure that vocational institutions understand that they are expected to stick to their vocational mission
   − grant accreditation to award degrees when education provision meets labour market demand

➢ Limit barriers to entry, assess contribution of individual institutions through quality assurance arrangements and remove burdensome administrative requirements that discourage entry by either public or private institutions

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BUILD SYSTEM LINKAGES

➢ Ensure appropriate co-ordination between secondary and tertiary education systems

➢ Strengthen links between vocational secondary education and tertiary education by developing tracks from vocational pathways to tertiary-level study

➢ Review whether the tertiary education system is contributing effectively to lifelong learning and assess whether flexibility of the system, relevance of provision and funding arrangements are suited to lifelong learners

➢ Build linkages between different types of tertiary education institutions (TEIs)
  − provide opportunities for students to move across the vocational-academic divide
  − encourage research networks, centres of excellence and collaborative initiatives

➢ Foster the engagement of institutions with surrounding regions and communities

STRENGTHEN ABILITY OF INSTITUTIONS TO ALIGN WITH NATIONAL TERTIARY EDUCATION STRATEGY

➢ Ensure the outward focus of institutions through:
  − 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
  − a broad internationalisation policy portfolio

➢ Require institutions to establish strategic plans aligned with the national tertiary education strategy

➢ Examine how best to widen the scope of institutional autonomy by:
  − permitting TEIs to be established as legal persons (foundations, not-for-profit corporations) or
  − identifying ways of widening institutional autonomy within the framework of State agency

➢ Create a national policy framework towards institutional governance that allows institutions to effectively manage their wider responsibilities
  − Establish a legal framework that provides institutions with the opportunity to establish a governing body
  − consider external membership in institutional governing bodies
  − give voice to students in areas such as quality assurance processes and student services

BUILD CONSENSUS OVER TERTIARY EDUCATION POLICY

➢ Develop an evidence basis to inform policy making, develop a comprehensive information strategy and monitor the success (or otherwise) of national tertiary education policies and their implementation

➢ Widen consultation within government to ensure coherence across policies to support national tertiary goals

➢ Widen consultation with those outside government to include graduates, employers, labour organisations and relevant not-for-profit organisations so voices other than those of "producers" are heard

Funding tertiary education

DEVELOP FUNDING FOR TERTIARY EDUCATION TO CONTRIBUTE TO SOCIETY AND 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 the funding approach consistent with the goals of 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.

➢ Ensure approach 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 including investment plans and schemes to raise additional resources. Identify programmes and policies that should receive priority for new public funds.

USE COST-SHARING BETWEEN THE STATE AND STUDENTS

➢ Provide public subsidies for tertiary education studies in public or private institutions, but without bearing a top-heavy share of the costs, since there are significant private benefits to tertiary education.

➢ Charge tuition fees to students, especially if limited public funding rations the number of students, jeopardises levels of spending per student, or restricts financial support for disadvantaged groups. Savings from cost-sharing can be used for broadening access to tertiary education through strengthened student support systems.

➢ In countries with little tradition of tuition fees, launch a public debate to help clarify whether:
  − heavy reliance on public money is sustainable
  − private benefits are so low as to justify low fees, especially of the more affluent students
  − higher fees for more affluent students could consolidate the student support system

➢ Consider tuition fee stabilisation policies to ensure cost containment and moderation.

➢ Allow institutions to differentiate tuition fees across courses to make systems more responsive to student and employer preferences and generate efficiency gains.

PUBLICLY SUBSIDISE TERTIARY PROGRAMMES IN RELATION TO BENEFITS TO SOCIETY

➢ Establish broad principles to differentiate levels of public subsidies across programmes including:
  − Providing high levels of public subsidies to priority fields of high relevance (*e.g.* when graduate numbers fall short of demand) and less subsidies to popular programmes with high private returns to graduates.
  − New programmes should be assessed for relevance – *e.g.* whether they respond to labour market needs, foster innovation or serve communities' aspirations – before approval.
  − Ensuring relevance to society requires a robust system of quality assurance since low-quality programmes are, for example, unlikely to be relevant to the labour market.

➢ Publicly subsidise properly accredited tertiary courses offered by private institutions. There is no economic argument to discriminate between public and private institutions as long as quality is assured.

➢ Make institutional funding for instruction formula-driven, using both input and output indicators and including strategically targeted components:
  − Base institutional block grants on transparent formulas with a balanced array of input and output indicators.

- Consider allocating institutional funding by *performance agreements or contracts* negotiated between the State and individual institutions.
- Include targeted development programmes to help align the mission of institutions with the overall strategy for tertiary education. But a multitude of targeted funds risks reducing transparency and increasing transaction costs.
- Allocating funds to institutions should follow a tailored approach recognising the diversity of roles and missions of institutions.
- Give institutions autonomy in the use of their block grants.
- Provide stability in institutional funding to promote long-term development.
- Allow institutions to diversify sources of funding.
- Fund capital infrastructure with a number of different streams.

➢ Improve cost-effectiveness by steps to reduce inefficiencies throughout tertiary education systems through:
- linking funding more closely to graduation rates
- creating incentives to reduce non-completion rates and the length of study time
- 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
- expanding student mobility between institutions

DEVELOP A COMPREHENSIVE STUDENT SUPPORT SYSTEM

➢ Back the overall funding approach with a comprehensive student support system to reduce liquidity constraints faced by students.

➢ A mixed system of loans and grants assists students in covering tuition fees and living costs, alleviates excessive hours spent on part-time work, and/or disproportionate reliance on family support.

➢ A loans system with income-contingent repayments addresses risk and uncertainty faced by individuals by providing insurance against inability to repay and improves progressiveness by providing a lower public subsidy for graduates that obtain higher private returns.

➢ 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 income-contingent loan system complemented with means-tested grants.

➢ Base grants on an assessment of financial need of the student to promote access of those with greater need and who underestimate the net benefits of tertiary education as a result of a socio-economic disadvantage.

➢ Ensure that student aid entitlements cover living costs.

➢ Provide access to the student support system to students in the public and private sectors alike.

➢ Consider creating 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.

PROVIDE SUPPORT FOR STUDENTS WITHIN A BROADER FUNDING STRATEGY

➢ Provide financial support in line with the overarching principle that tertiary education uses public funds in a way that facilitates its contribution to society and the economy.

➢ Make the funding approach consistent with the goals of 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.

➢ Ensure the funding approach 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).

➢ Share the costs of tertiary education between the State and students, who gain significant private benefits from tertiary education. Provide public subsidies for tertiary education studies in public or private institutions, but without taxpayers bearing a top-heavy share of the costs.

➢ Charge tuition fees to students, especially if limited public funding rations the number of students, jeopardises levels of spending per student, or restricts financial support for disadvantaged groups. Savings from cost-sharing can be used for broadening access to tertiary education through strengthened student support systems.

➢ Allow institutions to differentiate tuition fees across courses to make systems more responsive to student and employer preferences and generate efficiency gains but consider tuition fee stabilisation policies to contain costs.

DEVELOP A COMPREHENSIVE STUDENT SUPPORT SYSTEM

➢ Assist students to cover tuition fees and living costs through a mixed system of loans and grants.

➢ A comprehensive student support system reduces liquidity constraints faced by students and is a key element in broadening access to tertiary education and improving completion rates. It alleviates excessive hours of part-time work, and/or disproportionate reliance on family support.

➢ A loans system with income-contingent repayments addresses risk and uncertainty faced by individuals by providing insurance against inability to repay and improves progressiveness by providing a lower public subsidy for graduates that obtain higher private returns.

➢ 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 income-contingent loan system complemented with means-tested grants to provide comprehensive student support.

➢ Develop an income-contingent loan scheme at the national level, open to both full-time and part-time students.
  − If government cannot finance a universal scheme immediately, start with means-tested loans and make the scheme universal as it reaches maturity.
  − If subsidies on interest rates are provided, they should be based on need, subsidised for a limited period and supplemented with a larger loan entitlement at market rates.

➢ Base grants on an assessment of financial need of the student to promote access of those with greater need and who underestimate the net benefits of tertiary education as a result of socio-economic disadvantage.

- Allow students who receive grants to also take out student loans, but with the loan entitlement reduced by the size of the grant.

- Ensure that student support entitlements are sufficient to cover tuition and living costs.

- Provide access to the student support system to students in the public and private sectors alike.

- Consider creating 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.

Approaches to student support, 2007

	PUBLICLY-FUNDED GRANT SCHEMES			
	Basic Universal grants	Means-tested grants	Merit-based grants	No grants scheme
LOAN SCHEMES Public Loan Fund	Netherlands, United Kingdom Sweden	New Zealand Australia, Japan		Iceland, Norway
Commercial banks with public subsidy or guarantee	Korea (part 1)	Finland Poland, Portugal	Chile, China Korea (part 2) Estonia	
No publicly subsidised or guaranteed loan scheme		Flemish Com. of Belgium, Czech Republic, Spain Greece, Mexico, Russian Federation, Switzerland		Croatia

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 Tertiary Education Institutions.

Source: OECD (2008), *Tertiary Education for the Knowledge Society*

Achieving equity in tertiary education

TACKLE EQUITY ISSUES

➢ Assess where equity problems arise through systematic collection of data

➢ Use an empirical performance indicator system to monitor access, participation, retention and success of groups identified as disadvantaged for the equity framework

➢ Address inequality of access to tertiary education by intervening at early educational levels

SMOOTH TRANSITIONS FROM SCHOOL TO TERTIARY EDUCATION

➢ Set up a network of career guidance services at the school level with sufficient and well-trained staff

➢ Promote exchanges between schools and tertiary education institutions (TEIs) whereby school children are mentored by tertiary students

➢ Expand tracks from vocational upper secondary education to tertiary education

➢ Ensure that school children are not tracked away from tertiary education paths at an early age

➢ Lower barriers between the vocational and academic tracks within secondary school

➢ Ensure that the number and type of study places in tertiary education accommodate diverse demand

➢ Ensure that secondary curricula and assessment provide a good basis for successful tertiary study

TAKE CULTURAL DIVERSITY INTO ACCOUNT

➢ Adapt tertiary programmes to cater for both school leavers and adults seeking to upgrade their qualifications

➢ Encourage the development of TEIs with diverse cultural foundations (*e.g.* indigenous TEIs)

➢ Encourage policy of opening up culturally diversified TEIs to all citizens, regardless of cultural background

➢ Enhance the partnerships between cultural minorities (and the TEIs run by them) and mainstream TEIs

➢ Establish learning centres with remote links to TEIs and regional campuses of urban-based TEIs

OPEN UP ENTRANCE PROCEDURES TO TERTIARY EDUCATION

➢ Give TEIs more autonomy over student admissions and encourage them to base admissions on a wide variety of entrance criteria

➢ Encourage targeted recruitment programmes or the provision of quotas for members of specific under-represented groups

➢ Consider granting eligibility through the accreditation of prior learning and work experience

➢ Consider granting eligibility through the possibility of passing an examination to test the individual's aptitude for tertiary study

➢ Improve information for students about programmes and transfer possibilities

➢ Develop a system of course credits valid across the tertiary education system

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PROVIDE EXTRA SUPPORT FOR STUDENTS FROM DISADVANTAGED BACKGROUNDS

- ➢ Consider special incentives for TEIs to attract less represented groups and to develop initiatives to support students from these groups in their studies progression
- ➢ Extend tutoring services for students with academic difficulties

ENCOURAGE INSTITUTIONS TO BE MORE RESPONSIVE TO THE NEEDS OF ADULT LEARNERS

- ➢ Provide information and access courses to prepare older people for a return to study and consider introducing alternative entrance requirements
- ➢ Facilitate enrolment on a part-time basis
- ➢ Expand access to include individuals of all ages in student support systems

SUSTAIN EFFORTS TO IMPROVE GENDER PARITY IN TERTIARY EDUCATION

- ➢ In those countries where gender parity has not been achieved at under-graduate level, steps to promote female participation should include career counselling and information at the school level, along with efforts to develop family-friendly policies and shifts in cultural norms about the roles of women
- ➢ Encourage girls to pursue the sciences and boys to pursue the more "caring" professions and studies

GRANT SPECIAL PROVISIONS FOR STUDENTS WITH DISABILITIES

- ➢ Develop support strategies in TEIs that avoid any form of stigmatisation
- ➢ Collect data on disabled students in order to improve provision
- ➢ Consider developing distance learning opportunities

Assuring and Improving quality in tertiary education

WHY ASSURING QUALITY MATTERS

- Improved quality assurance could help countries achieve their goal of ensuring high quality provision in tertiary education and preparing their populations for participation in the knowledge economy

- Transition from elite to mass participation in tertiary education has increased the burden on national budgets

- The move towards the New Public Management (NPM) approach requires policy makers to demonstrate the effectiveness of public spending

- Governments have agreed to provide more autonomy to tertiary education institutions (TEIs) so as to improve TEIs' central management in exchange for quality assurance

- New private educational offerings have called for better protection of consumers

- Quality provision in TEIs is important to attract students and secure revenues in competitive environments

- The role of tertiary education in training knowledge workers contributes to economic growth

- Ensuring quality in tertiary education beyond the elite segment is also important for employment and social cohesion

- The shift towards the new economy has increased students and employers' expectations of tertiary education

- Growing internationalisation of tertiary education calls for closer monitoring of cross-border education quality

- Quality assurance can be defined as the "process of establishing stakeholder confidence that provision (input, process and outcomes) fulfils expectations and measures up to threshold minimum requirements"

DESIGN OF THE QUALITY ASSURANCE FRAMEWORK

- Design a quality assurance framework consistent with the goals of tertiary education whereby:
  - each student is provided with quality education
  - the overall system is contributing to the social and economic development of the country
  - TEIs' activities foster equity of access and outcomes
  - quality assurance contributes to better co-ordination within and integration of the overall tertiary system

- Build consensus on clear goals and expectations of the quality assurance system
  - distinguish improvement and accountability conceptually and practically, while allowing for close contact between them

- Ensure that quality assurance serves both the improvement and accountability purposes

- Combine internal and external quality assurance mechanisms

- Build capacity and secure legitimacy
  - collection of data and processing of quality indicators to be used in accountability checks should ideally be developed outside the quality assurance agency/body
  - ensure that the staff involved in external evaluations are adequately selected and trained to analyse the information gathered during the evaluations

- Make stakeholders such as students, graduates and employers visible in the evaluation procedures

- Increase focus on student outcomes
  - refer to the desired outcomes of tertiary education for the design of tertiary programmes' curricula

- develop indicators of teaching quality and include them in performance appraisals of TEIs
- ➢ Enhance the international comparability of the quality assurance framework

INTERNAL EVALUATION

- ➢ Develop a strong quality culture in the system
- ➢ Put more stress on internal quality assurance mechanisms
  - academics in each study area could gather systematic feedback from students, assess their programme's effectiveness and carry out improvements in areas where weaknesses are identified
  - national quality assurance agency/body could organise technical assistance materials and sponsor workshops
- ➢ Ensure that internal accountability is guided by some key principles
  - encourage peer observation of teaching
- ➢ Undertake the external validation of internal quality assurance systems

EXTERNAL EVALUATION

- ➢ Commit external quality assurance to an advisory role as the system gains maturity but retain strong external components in certain contexts
  - external quality assurance could offer advice and consultation to TEIs, undertake research on quality, disseminate best practices and provide benchmarking data across the sector
  - concentrate monitoring and improvement efforts on TEIs most in need of improving their quality
- ➢ Implement adequate follow-up procedures and view quality assurance as a continuous process
  - the quality assurance agency/body should step in when a TEI does not act on the evaluation recommendations
- ➢ Allow for selected assessments to be initiated by an external quality assurance agency
- ➢ Avoid direct links between assessment results and public funding decisions
  - minimum quality thresholds should be demonstrated *ex-ante* to become eligible for public funds
  - find balance between reward mechanisms and funding directed to correct deficiencies in low-performing TEIs

METHODS

- ➢ Align quality assurance processes to the particular profile of TEIs
- ➢ Improve co-ordination between the evaluation of teaching and research
- ➢ Engage in constant innovation, e.g. periodic change in both objectives and in the quality assurance agencies
- ➢ Develop quality assurance expertise in new areas

PRACTICAL ARRANGEMENTS FOR THE QUALITY ASSURANCE SYSTEM

- ➢ Avoid fragmentation of the quality assurance organisational structure
- ➢ Avoid excessive costs and burdens
- ➢ Improve quality information base
  - build a better national information system on tertiary students and their later employment experience
- ➢ Improve information dissemination with reports easily accessible and comprehensible to non-experts in the field

Internationalisation of tertiary education

STEERING INTERNATIONALISATION POLICY

- ➢ Develop a national strategy and comprehensive policy framework for internationalisation aligned with country-specific goals in the tertiary education sector and beyond, e.g. human resources development, research and innovation

- ➢ Improve national policy coordination:
  - − ensure consistency between policy directions followed by educational authorities in internationalisation and those of related policy areas
  - − establish an inter-governmental committee with representatives from immigration, science and technology, labour and foreign affairs to ensure a whole-of-government approach to internationalisation
  - − consider the engagement of national aid agencies

- ➢ Encourage tertiary education institutions (TEIs) to become proactive actors of internationalisation:
  - − grant more autonomy to TEIs to make them more responsive to their external environments
  - − include internationalisation strategy in negotiations between tertiary education authorities and TEIs
  - − consider financial incentives e.g. tuition fees for international students, tuition subsidies, targeted funds

- ➢ Promote sustainable strategies of internationalisation
  - − promote the diversification of international activities
  - − encourage the diversification of internationalisation partners
  - − ensure that international students are spread throughout the tertiary education system

- ➢ Create structures to assist TEIs in their internationalisation strategies and a specific agency to support TEIs in building capacity and developing international networks

MAKING TERTIARY EDUCATION ATTRACTIVE AND INTERNATIONALLY COMPETITIVE

- ➢ Create structures to promote the national tertiary education system and develop international marketing activities to promote the brand image of national tertiary education through one single structure/agency

- ➢ Enhance the international comparability of tertiary education and consider participating in international credit transfer systems and international networks of professional recognition

- ➢ Develop alternatives to current global rankings: support development of more precise methodologies for global comparison and comparative measures of learning outcomes at institutional level

- ➢ Improve information to prospective international students

- ➢ Foster centres of excellence at post-graduate level while also ensuring quality provision in under-graduate cross-border education:
  - − reinforce the professionalisation of institutional leadership to increase the capacity of TEIs to identify and support centres of research excellence
  - − improve co-ordination between national quality assurance agencies and those involved in internationalisation of tertiary education
  - − encourage TEIs to provide specific support mechanisms for international students before their arrival and during their studies

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MANAGING INTERNAL DIMENSIONS OF INTERNATIONALISATION

➢ Develop on-campus internationalisation:
  - encourage TEIs to deliver part of their programmes in foreign languages
  - develop the language and cross-cultural skills of domestic students directly on-campus
  - consider recruiting foreign academics in TEIs
  - develop joint degree programmes in cooperation with foreign TEIs

➢ Encourage the mobility of domestic academic staff and students:
  - encourage TEIs to integrate short-term exchanges as regular parts of their programmes
  - develop twinning programmes with foreign TEIs
  - consider including international activities and mobility among criteria for promotion and career advancement

OPTIMISING INTERNATIONALISATION STRATEGY

➢ Improve data to inform policy-making by including information about the "international experience" of individuals in tertiary graduate or labour force surveys, e.g. costs

➢ Take advantage of international complementarities and consider targeting public support for degree-mobility to post-graduate studies or under-graduate programmes unavailable at home

➢ Manage the migration impact of internationalisation

➢ Consider developing collaborative programmes with foreign TEIs

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Tertiary education and labour markets

IMPROVE DATA AND ANALYSIS ABOUT GRADUATE LABOUR MARKET OUTCOMES

➢ Consider greater investment in data collection about labour market outcomes

➢ Provide prospective students with information about wages and employment among recent graduates

➢ Conduct surveys of graduates and track long-term graduate labour market outcomes through public data systems

STRENGTHEN CAREER SERVICES AT SECONDARY AND TERTIARY EDUCATIONAL LEVELS

➢ Ensure that career guidance in secondary schools and career placement services in tertiary institutions make good use of data on educational alternatives and labour market outcomes

➢ Ensure that career guidance is adequately staffed by appropriately trained professionals

➢ Establish a national or regional-level Career Services office

➢ Monitor and periodically evaluate the impact of career guidance

REINFORCE THE CAPACITY OF INSTITUTIONS TO RESPOND TO LABOUR DEMAND

➢ Ensure that the funding methodologies established by public authorities create incentives for institutions to respond to student demand

➢ Ensure that tertiary institutions have the capacity to reallocate resources internally in response to students' preferences

➢ Devise management information systems that generate evidence of institutional performance in meeting enrolment demand

➢ Encourage development of institutional governance and management arrangements that allow for efficiency in the allocation of resources

ENHANCE PROVISION WITH A LABOUR MARKET ORIENTATION

➢ Build on ample choice in the system to meet a variety of student and labour market needs

➢ Expand opportunities for flexible, work-oriented study

➢ Support the diversification of study opportunities

➢ Strengthen the capacities of institutions charged with the provision of degree programmes oriented toward working life and short-cycle practice-oriented programmes

➢ Establish public institutions with a strong labour market orientation (*e.g.* polytechnics)

➢ Expand vocationally-oriented programmes in public institutions which are part of unitary systems

➢ Authorise entry of vocationally-oriented private education and training providers into tertiary system

INCLUDE LABOUR MARKET IN POLICY DEVELOPMENT AND INSTITUTIONAL GOVERNANCE

➢ Consider developing institutional arrangements aimed at co-ordinating education, training and employment such as by setting up a cabinet-level committee for human capital

- ➢ Involve labour market actors in the formulation of tertiary education policies through their inclusion in bodies that provide advice and analysis to policy makers
- ➢ Ensure that labour market actors develop an active interest in participating in the dialogue and that their views are valued and properly taken into account in the formulation of policies
- ➢ Include in deliberative and advisory bodies those who are responsible for employment and skills policies within government
- ➢ Widen the participation of labour market actors in the bodies responsible for the strategic governance of tertiary institutions
- ➢ Encourage tertiary institutions to engage employers, both public and private, in the design of programmes and even the assessment of students through their involvement in councils or committees

ENCOURAGE TERTIARY EDUCATION INSTITUTIONS TO PLAY A GREATER ROLE IN LIFELONG LEARNING

- ➢ Enhance tertiary education's role in renewing and improving skills of those already in the labour force
- ➢ Increase the flexibility of provision (*e.g.* part-time and distance provision)
- ➢ Design education and training alternatives tailored to the needs of employers and given industries
- ➢ Grant financial support to alleviate difficulties facing low-income workers
- ➢ Sustain practices such as internships for students and teachers in industry
- ➢ Establish and support offices in tertiary institutions to liaise with the business sector
- ➢ Encourage participation of employers in the daily activities of institutions (including governance and curriculum development)

EXPLORE THE POTENTIAL OF A NATIONAL QUALIFICATIONS FRAMEWORK

- ➢ Encourage employers to specify competencies for employment
- ➢ Encourage educational institutions to design programmes to develop these competencies in students
- ➢ Ensure that students know what competencies they need in order to become employable
- ➢ Set up a qualifications framework to make transfers across fields of study and institutions more flexible
- ➢ Facilitate the assessment and recognition of prior learning

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The academic career in tertiary education

GIVE INSTITUTIONS AMPLE AUTONOMY OVER THE MANAGEMENT OF HUMAN RESOURCES

➢ Ensure that national legislation focuses on outlining principles rather than specific processes

➢ Make faculty and staff formal employees of tertiary education institutions (TEIs)

➢ Give institutions discretion over setting academic salaries

➢ Give institutions freedom to create academic positions in line with their strategy

➢ Allow institutions to determine the range of career structures, e.g. balance between teaching and research and make them responsible for designing promotion, assessment and professional development strategies

➢ Ensure open competition and transparency for staff appointments

MANAGE THE ACADEMIC CAREER IN A FLEXIBLE MANNER

➢ Provide more flexibility on the roles and workloads of academic staff and the types of employment contract

➢ Align career structures (e.g. academic ranks, responsibilities, qualifications) with institutions' missions

➢ Ensure that academics assume responsibility for shaping their work profile and develop professionally in accordance with the larger organisational and external environment

➢ Evaluate through debate the continuing merit of long and expensive career ladders

RECONCILE ACADEMIC FREEDOM WITH INSTITUTIONS' CONTRIBUTIONS TO SOCIETY

➢ Provide academics with support and conditions to meet what the institution and society expect from them

➢ Give academics autonomy in the design of the courses they teach

➢ Grant academics the freedom to select research topics and approaches to research

➢ Give academics freedom in their interpretation of research results and knowledge conveyed to students

➢ Allow academics to publicise the results of their research and the outputs of their service to the community

➢ Hold academics accountable for the outcomes of their academic activities

ENHANCE ATTRACTIVENESS OF THE ACADEMIC CAREER

➢ Consider targeting larger salary rises to the key groups of interest to particular institutions

➢ Consider providing a dynamic knowledge-rich work environment, opportunities for career growth, prospects for a stable career and opportunities for mobility and collaboration with external organisations

➢ Properly remunerate academic staff in their institution of primary employment so that secondary employment becomes exceptional

➢ Consider dual appointments for academic staff to encourage inter-institutional collaboration

➢ Sustain efforts to enhance the development of female representation in leadership positions

IMPROVE ENTRANCE CONDITIONS OF YOUNG ACADEMICS

➢ Provide a supporting environment to young academics upon entry into the academic career

➢ Ensure that recruitment processes are transparent and based on merit

➢ Set up a formal probationary process for new academics

STRENGTHEN MANAGEMENT PROCESSES AND LEADERSHIP

➢ Link individual academic work to institutional strategic goals through leadership and management processes

➢ Foster sense of ownership and collegiality through team work, internal communication and peer reviews

EVALUATE AND REWARD THE ACCOMPLISHMENTS OF ACADEMICS

➢ Extend rewards to areas other than research such as teaching, community service, technology transfer and dissemination activities

➢ Train heads of department and other senior colleagues in evaluation processes

➢ Consolidate mechanisms to reward academics for exemplary performance

➢ Diversify types of rewards such as time allowances, sabbatical periods, opportunities for activities in another organisation, support for research or further study or opportunities for training activities

➢ Provide simple, transparent and accepted procedures for dealing with ineffective academics

INTEGRATE PROFESSIONAL DEVELOPMENT THROUGHOUT THE CAREER

➢ Grant academics released time and/or financial support to undertake professional development activities

➢ Consider participation in professional development as a requirement for salary increases

➢ Recognise and assist the establishment of teaching and learning centres within tertiary education systems

DEVELOP MECHANISMS TO SUPPORT THE WORK OF ACADEMICS

➢ Create administrative units to assist academics with administrative tasks, technology transfer offices, teaching and learning centres and offices to advise students on career and other issues

ENHANCE CAPACITY FOR COLLABORATION AND ENCOURAGE MOBILITY

➢ Ensure mutual recognition of academic career structures across institutions

➢ Ensure recognition of skills and experience gained outside academic institutions and provide flexible re-entry pathways to the academic profession

➢ Consider the creation of Centres of Excellence involving different research groups or of joint degrees between institutions

➢ Discourage "in-breeding" from student to staff member within the same institution

➢ Prepare to deal with consequences of growing internationalisation of the academic labour market

PROVIDE MORE FLEXIBLE EMPLOYMENT CONDITIONS FOR SENIOR ACADEMICS

➢ Introduce professional development activities, more flexible working arrangements with reduced hours, working on a consultancy basis or new tasks such as curriculum development

Research and innovation in tertiary education

IMPROVE KNOWLEDGE DIFFUSION

- ➢ Prioritise knowledge diffusion rather than strengthening commercialisation *via* stronger intellectual property rights

- ➢ Assess the impact of technology transfer offices (TTOs) in tertiary education institutions (TEIs)

- ➢ Encourage diffusion capabilities and interactive support activities of TEIs

IMPROVE INTERACTION AND COLLABORATION BETWEEN INSTITUTIONS

- ➢ Develop collaboration between the tertiary education sector and firms and public research organisations to improve knowledge diffusion

- ➢ Ensure that all tertiary education institutions, including non-vocational TEIs, are responsive to industry needs for co-operative projects

- ➢ Ensure that small and medium-sized enterprises (SMEs) and firms from all technological sectors are considered when programmes are designed

- ➢ Consider broadening partnerships with industry to include industry representation on management boards or the development of co-operative education programmes

FOSTER NATIONAL AND INTERNATIONAL MOBILITY

- ➢ Provide incentives to facilitate inter-sectoral mobility between firms, TEIs and public research organisations

- ➢ Ease cultural and structural barriers both to attract foreign students and researchers and to retain them

- ➢ Build attractive research environments in TEIs with the availability and quality of research infrastructure

IMPROVE RESEARCH CAREER PROSPECTS

- ➢ Address the impacts of insecurity on the attractiveness of research careers

- ➢ Improve the flexibility of public sector employment policies

- ➢ Ensure that salaries remain commensurate with other professions

- ➢ Monitor the supply and demand of human resources for science and technology and improve information on supply and demand mismatches and labour market trends

- ➢ Improve policy-relevant data on human resources for science and technology (HRST)

ENSURE A VARIETY OF SKILLS FOR INNOVATION

- ➢ Combine technical skills with problem-solving capabilities and communication and management skills

- ➢ Ensure that all TEIs focus on providing their students with flexible and transferable skills and competencies

MAINTAIN ADEQUATE RESEARCH INFRASTRUCTURE

- ➢ Maintain and update regularly research infrastructure, instruments and equipment

- ➢ Establish collaborative policies across countries for the replacement of large science facilities

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FOSTER INTERNATIONALISATION OF RESEARCH AND DEVELOPMENT

➢ Try to integrate national measures and instruments – such as education and training policies and infrastructure policies – and companies' globalised knowledge strategies

IMPROVE METHODS FOR SELECTION OF RESEARCH PRIORITIES

➢ Link countries' priorities of specialisation to the research and innovation system

➢ Ensure that the tertiary education sector retains sufficient diversity so it can respond to future needs in the innovation system

➢ Achieve a balance between supporting basic and applied research

➢ Align the establishment and maintenance of centres of excellence with national industry priorities and retain enough flexibility to support emerging areas

➢ Broaden criteria used in research assessments and develop a broad range of robust performance indicators to ensure that the quality of research in TEIs is maintained and enhanced

➢ Consider other evaluation mechanisms such as peer review to supplement indicators

MONITOR PROJECT-BASED FUNDING AND PROVIDE A MIX OF FUNDING MECHANISMS

➢ Monitor shift towards project-based funding in TEIs and its impact on training researchers

➢ Propose a mix of competitive and non-competitive mechanisms to balance undesired effects

PROVIDE LONG-TERM, CO-ORDINATED PERSPECTIVE TO RESEARCH AND INNOVATION POLICIES

➢ Ensure that research and innovation policies take a long-term perspective so that TEIs play their role in understanding and developing solutions to global challenges

➢ Ensure that policies are coherent and co-ordinated across government and evaluated across the entire innovation system