4
The Changing Nexus: Tertiary Education Institutions, the Marketplace, and the State

There is no favorable wind for those who do not know where they are going.
Seneca

This chapter examines the evolving relationship between the marketplace, the state, and tertiary education institutions. The context of these relations has evolved strikingly in recent years, which have seen three major developments: growing system differentiation, changing governance patterns, and diminished direct involvement of governments in the funding and provision of tertiary education. This chapter first describes the key dimensions of the rise of market forces in tertiary education throughout the world and the main implications of this phenomenon. It then articulates the rationale for continuing public intervention in the sector and, in conclusion, outlines the nature of an appropriate enabling framework for the further development of tertiary education.

The Rise of Market Forces in Tertiary Education
As OECD countries enroll increasingly large numbers of students, achieve higher levels of participation in tertiary education, and move toward the goal of lifelong education for all, they are experiencing significant transformations in the structure, governance, and financing of their tertiary systems. This section looks at these changes in OECD countries and then turns to how governments and tertiary education institutions in developing and transition countries are dealing with similar
conditions in the shape of financial pressures, expanding demand, and
the introduction of private institutions.

**The Response in OECD Countries**

A major driver for change in OECD countries has been widespread con-
cern about the rising costs of expanded tertiary education systems. Al-
though public funding remains the main source of support for
tertiary education in OECD countries, it is being channeled in new ways
and supplemented increasingly by nonpublic resources. Of the eight
OECD countries for which data are available, private expenditures for
tertiary education have grown faster than public expenditures in seven.
(France is the exception.) In Canada, Italy, the Netherlands, and Swit-
zerland public expenditures have actually decreased in real terms
(OECD 2001).

The changes in the balance of private and public funding bring mar-
ket forces to bear more directly on tertiary institutions. New financing
strategies, for instance, have been put in place to generate business
income from institutional assets, to mobilize additional resources from
students and their families, and to encourage donations from third-party
contributors. Some countries have introduced or raised tuition fees, usu-
ally in combination with a student loan scheme (OECD 1998a). Following
the example of Japan and the United States, a few countries have
encouraged the creation of private institutions. In Portugal private uni-
versities have expanded in less than a decade to represent 30 percent of
tertiary education institutions, and they enroll close to 40 percent of the
total student population.

Another important lever of transformation in OECD countries has
been the willingness of governments to make provision of tertiary edu-
cation more demand driven. Specifically, these countries are encourag-
ing institutions to be more responsive to the new education and training
needs of the economy, the shifting demands of employers, and the chang-
ing aspirations of students. With these objectives in mind, a number of
countries have replaced or supplemented the traditional budget transfer
mechanisms with resource allocation formulas pegged to the value of
inputs and outputs. This formula-funding approach to budgetary allo-
cation is designed to foster greater institutional autonomy by giving
more management discretion to tertiary education institutions in the
internal distribution and utilization of their resources. For instance, in
Australia, Denmark, New Zealand, and Sweden, where funding is based
on actual enrollments, tertiary education institutions have been given
more autonomy in allocating resources across faculties, departments,
and programs. Formula funding also provides financial incentives for
improved institutional performance in relation to national policy goals.
The Rise of Private Institutions in Developing and Transition Countries

Similar trends have been observed in many developing and transition countries. In many regions one legacy of national independence was a state monopoly on tertiary education—a situation that lasted for the better part of three decades. Today, this prevailing “culture of privilege” at public expense is increasingly under pressure to change. The sources of the pressure include the spread of economic liberalism, growing political pluralism, and a rising public demand for tertiary education—a result of demographic growth and of increased access at lower educational levels that has outstripped governments’ capacity to pay for provision of education at higher levels. Government funding for tertiary education has declined in relative (and sometimes even absolute) terms, forcing countries and institutions to consider alternative sources of funding and modes of provision. In particular, the growth of private institutions in response to rising demand has been much more rapid in developing countries than in most OECD countries. In many parts of the globe the growing presence of private institutions has drastically altered the traditional pattern of dominant state financing and provision. In Sub-Saharan African countries the number of private sector institutions grew from an estimated 30 in 1990 to more than 85 in 1999.

Much of this expansion has occurred in countries where economic liberalism is now fairly well established, including Kenya (21 institutions), Tanzania (14), Ghana (12), Uganda (11), and Mozambique (5). In Sudan, with eight institutions, and the Democratic Republic of Congo, with six, private provision appears to be a response to a breakdown of government capacity to maintain an effective tertiary system. In contrast to the apparent trend in anglophone countries, private initiatives in the provision of tertiary education have been nearly absent in the French-speaking nations of Africa, with the notable exception of Côte d’Ivoire, where private institutions enroll 30 percent of the student population.

Even though most private universities in Sub-Saharan Africa are quite small, with enrollments ranging from 300 to 1,000 students, this emerging sector is introducing healthy competition, innovation, and managerial efficiency. The resulting diversification of tertiary education may encourage the growth of systems that are more closely attuned to labor market demand and development needs.

In the Middle East and North Africa the growth of private tertiary education has been more recent and less dramatic. In only a handful of countries are shares of enrollments in private institutions significant. Among these countries is the Islamic Republic of Iran, where private tertiary education appeared for the first time in 1983 and where private institutions now enroll more than 30 percent of the total student popu-
In Jordan private tertiary education is a fairly recent phenomenon (since 1991), but growth in enrollment has been rapid; in 1999 private institutions accounted for 35 percent of total tertiary enrollment.

Most other nations in the region still depend on the state to provide and finance the bulk of tertiary education. But even countries that had an exclusively or predominantly public sector, such as the Arab Republic of Egypt, Morocco, Tunisia, and the Republic of Yemen, have opened up in the past decade. These countries are proceeding cautiously in setting up an institutional framework that will allow for the expanded development of the private tertiary education sector. The Tunisian and Moroccan governments conducted internal discussions for several years before submitting legislation on private higher education to their respective parliaments. In Egypt at the beginning of the 1990s the government revoked the automatic guarantee of a public sector job for university graduates, and it has allowed the operation of private tertiary education institutions. Recently, the heads of state of Oman and the Syrian Arab Republic announced that private providers, including foreign ones, may enter the tertiary education market. The relative reluctance to embrace private tertiary education in the region might be explained by strong opposition from existing public institutions but also by the technical complexity of the issues—notably, quality control, fiscal equity, and relations between public and private institutions—and by fears of foreign influence if the private sector is allowed to expand without appropriate safeguards.

The shift in the balance between the state and the market has been more marked in the former socialist countries of Eastern Europe and Central Asia, where economies have been moving from central planning to liberalization. There were no private tertiary institutions in the region at the beginning of the 1990s, but today close to 350 private institutions operate there, enrolling a quarter-million students. In the Czech Republic, Hungary, Poland, and Romania private sector enrollments expanded from 12,000 students in 1990 to 320,000 in 1997. The average proportion of students in private institutions is 22 percent for the four countries, similar to that in the United States. In Romania 54 private tertiary education institutions, 15 of which are about to receive full accreditation, compete with 57 public institutions.

The emergence of the private sector is even more significant in the former Soviet republics. In Armenia the rapidly growing private sector already amounts to 36 percent of total enrollment. There are more than 100 private institutions in the Kyrgyz Republic and Ukraine, and there are over 300 in Russia, representing one-quarter of all tertiary institutions in that country. Perhaps the most extraordinary example is that of Kazakhstan, where, only two years after private higher education was legalized, 65 private institutions were in operation. Kazakhstan’s presi-
dent recently announced a plan to privatize the entire tertiary education sector over the next five years.

In several countries of South and East Asia private institutions have absorbed most of the demand for tertiary education. In the Philippines and Korea, for instance, the private sector represents 80 and 75 percent of total enrollment, respectively. Until a few years ago, India and Indonesia did not have large private sectors in tertiary education, but today, in both countries, more than half of all students attend private institutions. Even in Bangladesh, where until 1992 private universities were not allowed to operate, enrollments in private tertiary education institutions already account for 15 percent of the country’s student population and are growing fast.

A recent study of tertiary education in Latin America and the Caribbean found that the rapid expansion of enrollment and the increased institutional diversification in the region have not been directed by the state but, rather, have come about in response to rising social demand and changing labor markets (IDB 1999). Many countries in the region have experienced an impressive growth of private tertiary education institutions during the past 15 years. In the Dominican Republic and El Salvador the share of student enrollment in the private tertiary education sector rose from about 25 percent in 1970 to about 70 percent in 1996 (García Guadilla 1998). For the region as a whole, enrollment in private institutions represents more than 40 percent of the total student population, the next highest proportion in the world after East Asia.

**Financing**

The scope of state intervention has diminished in financing as well as provision. Although most cost-sharing efforts take the form of payment of tuition fees by students attending private institutions, public institutions have moved increasingly toward cost sharing, with students being charged fees in one form or another. Such cost sharing can represent between 10 and 30 percent of total costs, depending on the country and the institution. In Russia, for example, an estimated 27 percent of the students paid some fees in 1999, up from 9 percent in 1995. The Czech Republic has shifted a third of the previously highly subsidized costs of meals and accommodations to students and their families.

In Latin America and the Caribbean, fees have been introduced in public universities in Chile (beginning in the early 1980s), some Mexican universities (mid-1990s), and the University of the West Indies (late 1980s). Mongolia and China have introduced fees on a national scale. In an increasing number of countries, including Pakistan and Vietnam, although there are no charges for students who pass the university entrance examination, students who do not achieve high scores yet still
want to enroll can do so on a fee-paying basis. In Nepal the Institute of Engineering at the country’s flagship tertiary institution, Tribhuvan University, has been a pioneer in imposing substantial cost sharing, coupled with a scholarship scheme for academically qualified students from low-income families. In Nigeria, where university education is provided tuition free, other forms of cost sharing and cost recovery have enabled the proportion of university budgets derived from fee income to grow from 3.6 percent in 1991 to 8.7 percent in 1999 (Hartnett 2000: 13).

**Increased Autonomy in Financing and Institutional Policies**

Throughout the developing world, many governments have tried to encourage greater autonomy at the institutional level, allowing universities and other tertiary education institutions more freedom to manage their resources and develop proactive income-generation policies. Box 4.1 describes the reforms at the University of Dar es Salaam in Tanzania. Japan’s Ministry of Education recently made a significant move to combat institutional rigidity when it granted national universities corporate status and legal personality, with the assurance that their independence would be respected. The aim was to give the universities more flexibility in managing the resources provided through government grants, thus introducing market mechanisms and accountability and obviating the need for them to seek government approval for management actions. The 1998 decision by Chinese authorities to transfer responsibility for university financing to the provinces and the larger municipalities led to significant changes in management practices and increased reliance on resource mobilization efforts. In Indonesia the four leading public universities were granted a new autonomous status at the end of 2000. In Brazil the federal government recently made efforts in that direction, but the initiative met with considerable opposition from the Congress, and the necessary legislation has not yet been passed. In May 2000 Morocco adopted a comprehensive higher education reform law with the aim of promoting university autonomy as a stimulus for improved quality and a better focus on the development needs of the country.

**Caveats Regarding Market Forces**

In many parts of the world increased competition from private institutions has brought about greater diversity and choice for students and has served as a powerful incentive for public universities to innovate and modernize. Although the influence of market forces is often beneficial, it can have adverse consequences if there is unbridled competition without adequate regulatory and compensatory mechanisms.
To begin with, from an equity perspective, increased institutional choice for students is meaningful only for those who can afford to pay tuition at private institutions or for those with access to financial aid. The absence of scholarship and loan programs can lead to a paradoxical situation in which students from high-income families are overrepresented in the tuition-free public universities and students from low-income families are overrepresented in private, fee-paying universities, as is the case in Bolivia and Venezuela. In Bolivia the proportion of students from the lowest two quintiles who enrolled in private universities grew from 2 percent in 1990 to 14 percent in 1997. In several formerly socialist countries in Eastern Europe, including Russia, the introduction of tuition fees without accompanying student financial aid mechanisms has had a negative effect on equity. Students with limited financial resources are also more vulnerable in time of economic crisis, as evidenced by the sharp (20 percent) drop in tertiary education enrollments in Thailand as a consequence of the 1998–99 financial crisis.

**Box 4.1 A Successful Management Reform at the University of Dar es Salaam**

In 2000 the University of Dar es Salaam introduced an institutional transformation program designed to bring about an overall institutional overhaul under a 15-year corporate strategic plan. Financial reforms included the separation of educational (university) and sponsorship (government) roles; the introduction of a financial information system for recording accounting and procurement activities; the divestiture of noncore services to private entities; the intensification of income-generation activities through a newly established Income Generation Unit; and a shift from block grants to directly paid student sponsorship by the government.

The parallel reform of the administrative structure involved strengthening the university’s core roles and shifting noncore services to other entities; changing the composition of the council, senate, and college management boards; decentralizing decision-making; articulating more clearly the lines of accountability and responsibility; introducing departmental boards; and institutionalizing a culture of strategic planning. As part of the institutional transformation, core teaching and research functions are to be supported by automating all library activities, strengthening the computing center, conducting an academic audit, and installing a registration and student tracking system.

Among the factors that contributed to the success of the reform were careful planning, leadership commitment, regular reviews by the council, government support, donor assistance, and lessons from reforms in other countries.

When funding disparities among institutions are too large, it becomes increasingly difficult to maintain competition on equal terms, even in high-income countries. In the United States, for example, rising costs in tertiary education institutions, combined with reduced government budgetary support, have led to growing disparities in financial resources between public and private universities. Of the top 20 U.S. universities (U.S. News and World Report rankings for 2001), only two, the University of California at Berkeley and the University of Michigan, are public universities. A major factor in this evolution, as revealed by a recent survey (Smallwood 2001), is the mounting salary gap between private and public universities, making it difficult for the latter to attract the best professors and researchers. One coping strategy for public universities has been to rely increasingly on nonregular or adjunct teaching staff for undergraduate courses, thereby creating a second tier of teachers with precarious employment status and substandard remuneration.

In a global labor market for faculty, higher salaries in the universities of one country may have a negative impact on tertiary education institutions in other parts of the world and thus contribute to the brain drain described in Chapter 1. Not even top universities in Europe are immune to this threat, as is illustrated by recent complaints by British university leaders that they are no longer able to offer competitive salaries to attract eminent specialists into the academic profession (Adam 2001).

Differing Forms of Private Institutions: For-Profit and Nonprofit

Not all private institutions operate under the same regulations. While many private tertiary institutions are profit-making corporations subject to pure market mechanisms and corporate tax laws, many others are nonprofit institutions operating in countries where the laws permit the registration of corporations with special status. Nonprofit institutions differ from for-profit institutions in that they operate under a special financial requirement (a “nondistribution constraint”) forbidding them to distribute surplus revenue or profits to shareholders or individuals. Any such funds must be retained within the institution for capital investment, future operating expenses, or endowments. Nonprofit tertiary education institutions often enjoy tax exemptions on surplus income and other revenue, depending on the particular country’s laws. Some theorists believe that nonprofits combine market benefits with a certain social sensitivity and that the lack of a profit motive encourages them to offer fields of study that are valuable to society (the arts, the humanities, and the social sciences) but that may not be commercially lucrative. It is also suggested that the regulatory status of nonprofits may help protect underfunded
disciplines, such as expensive programs in medicine and engineering, by encouraging cross-subsidy through the recycling of financial surpluses to the more costly programs. In several Latin American countries, including Colombia and Peru, private universities are able to charge higher fees for prestige professional programs in law and accounting while subsidizing more costly disciplines such as engineering.

Nonprofits may stimulate greater private philanthropy in education by signaling to donors that investments will not be used for the private gain of trustees or owners. Tax codes can encourage private largesse by exempting philanthropic donations from taxation.

Some studies show that consumers and governments are more likely to trust nonprofit corporations over for-profit enterprises in the delivery of public goods such as education and health care. Many countries permit private for-profit and private nonprofit tertiary institutions to operate side by side, with the understanding that both types of institution have benefits and drawbacks and that a mix of institutional forms helps diversify the tertiary system. It is important for countries to focus their energies on effective quality assurance mechanisms, to be applied equally to all tertiary institutions regardless of their form—whether public or private, for-profit or nonprofit.

**Rationale for State Intervention**

Public goods, quasi public goods, and externalities are fairly common in the real world. They are common enough that it is necessary to take proposals for government intervention in the economy on a case-by-case basis. Government action can never be ruled in or ruled out on principle. Only with attention to detail and prudent judgment based on the facts of the case can we hope to approach an optimal allocation of resources. That means the government will always have a full agenda for reform—and in some cases, as in deregulation, that will mean undoing the actions of government in an earlier generation. This is not evidence of failure but of an alert, active government aware of changing circumstances.

Paul Krugman (1996)

As was noted earlier, the traditionally predominant role of the state in the financing and provision of tertiary education was rooted in political and economic circumstances that have now radically changed. Developing countries are rapidly moving from small, elite systems toward expanded tertiary education systems. This massification process has often outstripped government ability to finance it, leading to erosion of educational quality. Even in transition economies, where universities and
research institutes had traditionally been strong, the process of modernizing tertiary education systems has been hampered by diminished fiscal resources and competing claims from other sectors. This has severely affected the countries’ ability to support tertiary education to the same extent and in the same manner as before. Again, rapid loss of educational quality at the tertiary level has been an inevitable consequence.

Although governments cannot keep up with all the fiscal demands of offering ever higher quality tertiary education, they have at least three strong reasons for supporting the sector:

- Investments in tertiary education generate external benefits essential for economic and social development. These benefits, including long-term returns from basic research and technology development and the social gains accruing from the construction of more cohesive societies, transcend the private benefits captured by individuals.

- Capital markets are characterized by imperfections and information asymmetries that constrain the ability of individuals to borrow adequately for education. These imperfections have adverse equity and efficiency consequences, undermining the participation of academically qualified but economically disadvantaged groups in tertiary education.

- Tertiary education plays a key role in support of basic and secondary education, buttressing the economic externalities produced by the lower levels of education.

**Externalities**

Despite the methodological difficulties involved in measuring externalities, it can be shown that tertiary education produces an array of important economic and social benefits (see Table 4.1, on page 81). Public economic benefits reflect the overall contribution of tertiary education institutions and graduates to economic growth beyond the income and employment gains accruing to individuals. As discussed in Chapter 2, in economies that rely increasingly on the generation and application of knowledge, greater productivity is achieved through the development and diffusion of technological innovations, most of which are the products of basic and applied research undertaken in universities. Progress in the agriculture, health, and environment sectors, in particular, is heavily dependent on the application of such innovations. Productivity is also boosted by higher skill levels in the labor force and by qualitative improvements that enable workers to use new technology. Increased workforce flexibility, resulting from the acquisition of general skills that facilitate adaptation, is increasingly seen as a crucial factor in economic development in the context of knowledge economies. Sustainable trans-
formation and growth throughout the economy are not possible without the contributions of an innovative tertiary education system, which helps build the absorptive capacity needed if private sector investment and donor resources are to have a lasting productive impact.

In addition to its overall contribution to economic growth, tertiary education has broad economic, fiscal, and labor market effects:

- The existence of universities and nonuniversity training institutions is important to regional development, through both direct linkages and spillover effects. The successful experiences of technology-intensive poles such as Silicon Valley in California, Bangalore in India’s Karnataka State, Shanghai in China, and Campinas in São Paulo State, Brazil, attest to the strongly positive effects that the clustering of advanced human capital alongside leading technology firms can have. East Asia has several examples of technology-intensive poles, including the Daeduck Research Complex in Korea, Tsukuba Science Town in Japan, and the Hsinchu Science-Based Industrial Park in Taiwan (China) (Shin 2001). A similar pattern has been observed in human capital-intensive countries such as Singapore and Finland.
- Econometric studies undertaken by the U.S. Bureau of Labor Statistics have shown that the overall growth in consumption in the United States over the past 40 years is correlated with the general increase in educational levels, even after controlling for income (IHEP 1998: 14).
- There are indications from several OECD countries, including the United States and Canada, that increased participation in tertiary education is correlated with reduced dependence on government financial support for medical and social welfare services (housing, unemployment, food stamps, and so on).
- The population with tertiary education is more likely to contribute to an expanded tax base.

Turning to public social benefits, tertiary education promotes nation building through its contributions to increased social cohesion, trust in social institutions, democratic participation and open debate, and appreciation of diversity in gender, ethnicity, religion, and social class. Pluralistic and democratic societies need the kinds of research and analysis that are fostered through social science and humanities programs. Tertiary education may contribute to reduced crime rates and corruption and to an increased community service orientation, as manifested in philanthropic donations, support for NGOs, and charity work. There are also strong social benefits from tertiary education associated with improved health behaviors and outcomes (Wolfe and Zuvekas 1997).

When looking at the public benefits of tertiary education, it is important to highlight the existence of joint-product effects linked to the com-
plementarities between undergraduate and postgraduate education and between tertiary education and lower levels of education. Although many undergraduate and professional education programs can be conducted in separate institutions—especially low-cost training in fields like business and law that are primarily private goods and are easily offered by private sector providers able to charge full cost—high-cost activities such as basic research and various types of specialized graduate training are more efficiently organized in combination with undergraduate training (Birdsall 1996). The high degree of cross-subsidization across disciplines, programs, and levels of study makes it difficult to look at the public-good components of tertiary education institutions in isolation from other activities. In addition, economies of scale can justify public support of expensive programs, such as those in basic sciences, that are almost natural monopolies.

Capital Market Imperfections

Although more than 60 countries have student loan programs, access to affordable loans frequently remains restricted to a minority of students. The loans are not necessarily available to the students with limited resources who are in greatest need of financial aid. Except for rich economies such as Australia, Canada, New Zealand, Sweden, the United Kingdom, and the United States, few countries have national programs that reach a large proportion of students (Salmi 2000). Even where there is national coverage, top universities may remain out of reach for a significant proportion of low-income students, as indicated by a recent survey of student aid programs in the United States. That report, prepared by the Lumina Foundation, a research organization specializing in student aid issues, concludes that despite the wide range of funding options available to students, most private colleges and universities and a majority of top public institutions are not accessible for low-income students without “extraordinary financial sacrifice” (Lumina Foundation 2002). Colombia’s ICETEX, the first modern student loan institution, established in 1950, has never managed to reach more than 12 percent of the student population. It has been struggling for financial survival in recent years, with coverage falling to less than 6 percent in 2001.

Where they do exist, student loans are not always available for the whole range of academic programs and disciplines. Under the innovative student loan scheme recently set up by the Mexican federation of private universities, for instance, loan eligibility is restricted to degree programs with a high market value such as engineering, business management, and law. They are not available for important disciplines in the arts and social sciences that are associated with less favorable labor market outcomes but have a potentially high social value.
Support of Primary and Secondary Education

Tertiary education institutions play a key role in support of basic and secondary education, and there is a need for more effective links among all levels of education. In fact, it is doubtful that any developing country could make significant progress toward achieving the United Nations Millennium Development Goals for education—universal enrollment in primary education and elimination of gender disparities in primary and secondary education—without a strong tertiary education system. Pre-service and in-service training of teachers and school principals, from preschool to the upper secondary level, is primarily the responsibility of tertiary education institutions. Education specialists with tertiary education qualifications and university personnel participate in curriculum reform and design, in policy research and evaluation for all levels of the education system, and in setting questions for secondary school leaving examinations. In some countries, including Japan, Korea, Mexico, Nepal, and the United States, universities are even directly involved in the management of primary and secondary schools. U.S. President George W. Bush’s 2002 education plan provides funding to encourage the formation of partnerships between lower-level schools and colleges and universities to improve mathematics and science instruction. In Uganda a transformed Makerere University was asked by the government in 2001 to assist in the training of local officials to improve decentralized service delivery in the social sectors. In the field of health, medical education, especially the training of medical doctors, epidemiologists, public health specialists, and hospital managers, is essential for meeting the basic Millennium Development Goals. (See Box 4.2 for an account of an initiative to improve basic health provision in Uganda.)

The linkages between tertiary education and the lower levels of schooling are multifaceted. Many dimensions of inequity at the tertiary level are conditioned by the access and opportunities available to various groups in primary and secondary education. The quality of tertiary education institutions and programs is strongly determined by the quality of secondary school graduates. Conversely, the terms of access to tertiary education institutions can influence the content and methods of teaching and learning at the high school level in a powerful way. Under conditions of severe competition for entrance into elite colleges and universities, admission criteria can significantly alter the behavior of both students and teachers in secondary schools. In most countries the content of previous examination papers, rather than the official curriculum, tends to dictate what is taught and how it is taught—and, more important, what is learned and how it is learned. Because in many countries (for example, Korea and Singapore) “elite” universities tend to select students primarily on the basis of test scores, schools and students often
Box 4.2 Leveraging Traditional Systems and Modern Knowledge to Achieve Uganda’s Goals for Health

Uganda is one of the least urbanized countries in Africa; more than 80 percent of its 20 million inhabitants live in rural areas. The fertility rate is high (6.9), but only about 38 percent of all births are attended by trained health workers who have completed specialized tertiary education. The remaining 62 percent of births are attended by practically experienced but untrained traditional birth attendants (TBAs) and by relatives. The lack of trained health care workers at the tertiary level is a significant problem in a country where the maternal mortality rate (MMR) is very high, an estimated 506 maternal deaths per 100,000 births.

Uganda’s Ministry of Health has chosen to address this problem partly through improvement of communications between trained health care professionals and TBAs. This initiative is being supported through the Rural Extended Services and Care for Ultimate Emergency Relief (RESCUER) project, launched in March 1996 as a pilot program. RESCUER has three components—communication, transportation, and health services delivery—that depend explicitly on highly trained health care specialists.

Uganda’s rural areas are beset by classic communication problems: lack of telephone wiring, of electric current, and of enough trained health care professionals to staff all localities. Solar-powered VHF radio was identified as the means of communication that offered the broadest coverage and could link to sufficient numbers of rural community health care providers. The use of radio communications made possible an increase in the number of deliveries attended by trained personnel, and the provision of transportation services led to a rise in referrals to health units. Together, these brought about a 50 percent reduction in MMR within three years in the communities surveyed.

The RESCUER program is an elegant merger of traditional practice with modern knowledge and technology that has improved maternal health and has generated social capital by networking midwives who had been working in isolation. Interviews with the TBAs showed that the radio technology, combined with the advice of trained health care professionals, resulted in empowerment, enhanced image and local credibility of TBAs, improved patient compliance with directives, alleviation of TBAs’ isolation, a reduction in delivery complications, and less panic in complicated deliveries, as well as higher TBA incomes because of the increased numbers of patients served.

Source: Musoke (2002).
focus their time and efforts on the acquisition of the narrow skills needed to pass college admission tests. This happens at the expense of generic competencies such as creative thinking, problem solving, and interpersonal and communication skills, which are increasingly valuable in an age of rapidly changing technologies.

The role of tertiary education in support of the overall education system is bound to become even more important as countries move from the universalization of basic education to the progressive massification of secondary education and become stricter in demanding mandatory tertiary education qualifications for primary and secondary school teachers. In Brazil, for instance, under federal legislation passed in 1997, by 2007 all teachers will be required to be tertiary education graduates. A teacher certification system is being developed to enforce this requirement, following the example of OECD countries such as Australia and the United States.

Although the mechanisms through which tertiary education contributes to social and economic development are not fully understood and precise measures of these contributions are not available, a preliminary effort can be made to map the interactions, as Table 4.1 illustrates.

### Table 4.1 Potential Benefits from Tertiary Education

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<td>Economic</td>
<td>Higher salaries</td>
<td>Greater productivity</td>
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<td></td>
<td>Employment</td>
<td>National and regional development</td>
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<td></td>
<td>Higher savings</td>
<td>Reduced reliance on government financial support</td>
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<td>Improved working conditions</td>
<td>Increased consumption</td>
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<td>Personal and professional mobility</td>
<td>Increased potential for transformation from low-skill industrial to knowledge-based economy</td>
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<td>Social</td>
<td>Improved quality of life for self and children</td>
<td>Nation building and development of leadership</td>
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<td></td>
<td>Better decisionmaking</td>
<td>Democratic participation; increased consensus; perception that the society is based on fairness and opportunity for all citizens</td>
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<td>Improved personal status</td>
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<td></td>
<td>Increased educational opportunities</td>
<td>Greater social cohesion and reduced crime rates</td>
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<td>Healthier lifestyle and higher life expectancy</td>
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<td>Improved basic and secondary education</td>
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*Source: Adapted from IHEP (1998): 20.*
Determining the Appropriate Level of Support

The existence of these important public economic and social benefits indicates that the costs of insufficient investment in tertiary education can be very high. These costs can include a reduced ability of a country to compete effectively in the global and regional economies; growth in economic and social disparities; declines in the quality of life, in health status, and in life expectancy; rising public expenditures on social welfare programs; and a deterioration of social cohesion.

At the same time, the need to consider the education system as a whole demands a comprehensive approach to resource allocation. While there is no magic number defining the “correct” proportion of resources to be devoted to tertiary education, certain guidelines can be applied to ensure a balanced distribution of budgetary resources and a sequencing of investment across the three subsectors of the education system that is appropriate to a given country’s level of educational development, pattern of economic growth, and fiscal situation. Looking at the experience of OECD countries that have emphasized the role of education in supporting economic growth and social cohesion, it would seem that an appropriate range for the overall level of investment in education as a share of GDP would be between 4 and 6 percent. Expenditures on tertiary education would then generally represent between 15 and 20 percent of public education expenditures. Developing countries that devote more than 20 percent of their education budget to tertiary education (as do Bolivia, Egypt, Jordan, Swaziland, Togo, and Venezuela), and especially those countries that have not achieved universal primary education coverage (Mauritania and Niger, for example), are likely to have a distorted allocation that favors an elitist university system and does not adequately support basic and secondary education. Countries such as Senegal that spend more than 20 percent of their tertiary education budget on noneducational expenditures such as student subsidies are underinvesting in nonsalary pedagogical inputs that are crucial for quality learning.

An examination of the patterns of public spending on tertiary education in East Asia shows dramatic variation. Except for Hong Kong (China) and Singapore, the economies of the region appear to spend, on average, relatively less on tertiary education than on primary and secondary education. In the mid-1990s (1994 or 1995) public expenditure on tertiary education as a share of total government expenditure on education was 15.6 in China, 37.1 percent in Hong Kong (China), 11.4 percent in Indonesia, 12.1 percent in Japan, 8 percent in Korea, 16.8 percent in Malaysia and in the Philippines, 34.8 percent in Singapore, and 19.4 percent in Thailand (World Bank 2001b).
The Evolving Role of the State: Guidance through an Enabling Framework and Appropriate Incentives

There is no prescription for how a country creates such a culture [of knowledge] . . . But government does have a role—a role in education, in encouraging the kind of creativity and risk taking that the scientific entrepreneurship requires, in creating the institutions that facilitate ideas being brought into fruition, and a regulatory and tax environment that rewards this kind of activity.

Joseph E. Stiglitz, Nobel Prize lecture, 2001

Developing countries and transition economies face both the new challenge of supporting knowledge-driven development and the old challenge of promoting quality, efficiency, and equity in tertiary education. Given the severe fiscal and budgetary constraints affecting governments’ capacity to sustain past levels of direct provision and financing of tertiary education, as well as the rise of market forces at both national and international levels, the purpose, scope, and modalities of public intervention are changing in significant ways. Instead of relying on the traditional state control model to impose reforms, countries are choosing increasingly to bring about change by guiding and encouraging tertiary education institutions, whether public or private, in a noncontrolling, flexible manner. This can be achieved in three complementary ways:

- By establishing a coherent policy framework
- By creating an enabling regulatory environment
- By offering appropriate financial incentives.

Figure 4.1 illustrates how the regulatory framework and the types of incentives used by the state interact with market forces and civil society to beget better performance and greater responsiveness among tertiary education institutions. Starting from the observation made in World Development Report 1997 that changes in government rules and constraints are not sufficient to bring about reforms in an effective manner, the proposed analytical framework stresses the significance of three categories of mechanisms that together bear on the behavior and results of tertiary education institutions: state regulations and financial incentives; participation and partnerships with industry, civil society, and professional associations; and competition among tertiary education providers (public and private, university and nonuniversity, campus-based and virtual, and so on).

In the past the dominant role of the government in the financing and provision of tertiary education in most countries translated into a relatively simple relationship between the state and tertiary education insti-
tutions. Depending on country conditions, this relationship was characterized either by a high degree of centralized control or by a great deal of institutional autonomy. Today, the growing competition for resources and customers in the context of a global education market is producing a much more complex interplay of forces that requires proper consideration in order to understand how the transformation of tertiary education systems and institutions takes place and what levers the state and society can use to promote change.

**Establishing a Coherent Policy Framework**

The first step for countries and tertiary education institutions willing to take advantage of the new opportunities presented by the knowledge economy and the ICT revolution is to question the relevance of their existing structures and procedures. They cannot afford to remain pas-

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**Figure 4.1 Forces for Change in Tertiary Education**

Source: Adapted from a figure in World Bank (2000b): 8.
sive but must be proactive in fostering innovations and launching meaningful reforms within a coherent policy framework. Although no rigid blueprint exists that is valid for all countries and institutions, a common prerequisite may be the formulation of a clear vision for the long-term development of a comprehensive, diversified, and well-articulated tertiary education system. This implies at least three dimensions: (a) outlining how the tertiary education system can most effectively contribute to national growth in the context of a globally articulated knowledge-based economy; (b) agreeing on the roles of different types of institutions within that system; and (c) determining the conditions under which the new technologies can be harnessed to improve the effectiveness and expansion of the learning experience. Many initiatives have been undertaken to develop such a vision at the national level, in both industrial and developing countries. The more recent examples come from the United Kingdom (the Dearing Report, 1997); New Zealand (the Tertiary Education Green Paper, 1998, and the Report of the Special Task Force, 2001); France (Plan for the University of the Third Millennium, 2000); Spain (the Bricall Report, 2000); South Africa (Report of the Council on Higher Education, 2000); Australia (An Agenda for the Knowledge Economy, 2001); and India (India as Knowledge Superpower: Strategy for Transformation, 2001).

The design of a tertiary education development strategy needs to reflect a comprehensive approach that integrates all the elements constituting a diversified tertiary system into a coherent, long-term vision of the mission of tertiary education as a whole and of the respective roles of each type of institution. One of the key decisions each country needs to make relates to the optimal size and shape of its tertiary education system and the choice of an appropriate strategy for raising enrollment, given the prevailing constraints on public resources. As a way of achieving quantitative expansion without sacrificing quality, countries should seek to differentiate further the provision of higher learning by encouraging a variety of institutions—public and private, large and small, universities and nonuniversity institutions, short- and medium-duration programs, liberal arts and technological institutions, research-based and scholarship institutions, campus-based and distance education programs, and so forth.

Tertiary institutions, which were once focused on training civil servants, must recognize that they are no longer producing graduates simply for public sector and civil service jobs. An increasing proportion of tertiary graduates seek work in the private sector and, in particular, the service sector. This is certainly the case in South Asia and in the Middle East and North Africa, where in the past most graduates could expect to be employed in public sector positions. But although opportunities in the private sector are increasing, private sector employment is less pre-
dictable and less secure than public employment. Tertiary education institutions and entire tertiary systems must become increasingly agile in responding to changes in the labor market. A diverse system that includes a strong set of private providers and autonomous public providers of tertiary education affords the necessary flexibility.

Increased differentiation does not necessarily imply increased segmentation of institutions and students. On the contrary, within a lifelong-learning perspective with the emphasis on responsiveness to new training demands and a more diversified clientele, student mobility can be encouraged by removing barriers to articulation among the segments of the tertiary education system, among institutions within each segment, and among disciplines and programs within institutions. The promotion of open systems can be achieved through recognition of relevant prior professional and academic experience, degree equivalencies, credit transfer, tuition exchange schemes, access to national scholarships and student loans, and creation of comprehensive qualifications frameworks like those being established in Ireland and New Zealand. Multiple pathways linking secondary education, both general and vocational, to tertiary education are also needed; examples include remedial courses (such as those offered in community colleges) and bridge courses on fundamental subjects, particularly in mathematics and science. It should be noted that removal of the barriers between sectors and segments of the tertiary education system often encounters resistance because, among other reasons, increased mobility can sometimes result in a reduced share of public funding for the more privileged university sector.

Last, but not least, important for the development of a country’s tertiary education vision and the necessary policy framework is consideration of the political economy of reform. Translating a vision into successful reforms and innovations depends on the ability of decision-makers to build consensus among the diverse constituents of the tertiary education community, allowing for a high degree of tolerance for controversies and disagreements (see Box 4.3). A potentially effective approach for addressing the political sensitivity of the proposed reforms is to initiate a wide consultation process concerning the need for and content of the envisaged changes. This effort involves a blend of rational analysis, political maneuvering, and psychological interplay to bring all the concerned stakeholders on board. Involving potential opponents in the policy discussion process carries risks. In Hungary, for instance, lack of success in building a consensus on the vision for tertiary education developed in the mid-1990s has resulted in poor implementation of the proposed reforms. In South Africa implementation of the tertiary education reform announced in February 2001—the culmination of four years of national consultations involving wide political debates based on the initial work of expert committees—has been stalled by the political
resistance of some constituencies. Yet ignoring the opposition altogether is a recipe for failure.

Creating an Enabling Regulatory Environment

The second important responsibility of government is to create a regulatory environment that encourages rather than stifles innovations in public institutions and initiatives by the private sector to expand access to good-quality tertiary education. Key dimensions of sector regulation include the legislative framework governing the establishment of new institutions, especially private and virtual universities; quality assurance mechanisms for all types of institutions; the administrative and financial rules and controls to which public institutions are required to conform; and legislation on intellectual property rights.

In countries with limited public resources for sustaining the expansion of tertiary education, private provision can expand educational opportunity at little or no direct public cost. Governments can encour-

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**Box 4.3 Consensus Building and Cost Sharing in Northern Mexico**

The Mexican constitution provides for free public education at all levels, and cost sharing has always been fiercely resisted by the professors and students of the country’s largest public university, the National Autonomous University of Mexico (UNAM). In 1999 the university was closed for almost a year by a strike supported by the majority of its 270,000 students after the rector suggested a US$100 increase in tuition fees, from US$8 a year.

In northern Mexico, by contrast, the rector of the University of Sonora was successful in introducing cost sharing after initiating, in 1993, a consensus-building process to explain to the staff and students the need for supplementary resources to maintain the quality of teaching and learning. After some initial resistance, including a widely publicized 2,000-kilometer march by protesters from Hermosillo to Mexico City, the students accepted the principle of a yearly payment to generate supplementary resources. A participatory process was to determine the allocation of these resources to equity and quality-improvement initiatives. Since 1994, the students have been paying an annual contribution of about US$300 for this purpose. A joint student-faculty committee administers the funds, which are used to provide scholarships for low-income students, renovate classrooms, upgrade computer labs, and purchase scientific textbooks and journals. A poster is prepared every year to disseminate information on the use of the money collected at the beginning of the academic year.
age the growth of good-quality private tertiary education institutions as a means of increasing the diversity of program offerings and broadening participation. For this to happen, it is important to remove cumbersome administrative requirements that constitute entry barriers in countries with little tradition of private tertiary education. In Spain, for instance, private universities must comply with stringent rules regarding, among other things, the number of academic programs offered, the student-teacher ratio, the proportion of full-time professors, and their academic qualifications. By contrast, in Chile the only requirement for a new university to start operating is approval of its curriculum plans and programs by an examining public university. Any direct concern with quality assurance should be deferred to accreditation bodies, not embedded in the laws that give tertiary institutions legal personality. Countries should aim for straightforward licensing procedures that outline minimum safety and educational requirements, complemented by effective quality assurance mechanisms that focus on the outputs of the new institutions.

Conscious that independent assessment is the best way to help set and maintain high standards in increasingly differentiated tertiary systems, a growing number of countries have established evaluation or accreditation bodies to promote higher-quality teaching and learning. Depending on the context, systematic modes of quality control and enhancement can take different forms. The most common approach has been a national evaluation or independent accreditation agency with authority over both public and private tertiary education institutions. In Africa Nigeria has conducted periodic accreditation assessments for 25 years, Ghana established a National Accreditation Board in 1993, and South Africa is currently engaged in a major exercise to reform its qualifications framework and adapt it to the requirements of the 21st century. In Latin America accreditation agencies have recently been created in Argentina, Chile, Colombia, and El Salvador. In the Middle East Jordan has pioneered the establishment of a national evaluation body. In Asia Indonesia was one of the first countries to create a quality assurance system, and even poorer countries with less developed tertiary education systems are following suit, as exemplified by Cambodia’s current efforts to set up an accreditation committee. In Eastern and Central Europe, Hungary, Romania, Poland, and Slovenia have taken the lead in quality assurance efforts.

Notwithstanding the diversity of organizational setups among countries, corresponding to their specific needs and institutional frameworks, there are emerging areas of consensus on what constitutes an appropriate system of quality assurance aimed at discouraging ineffective educational practices and reinforcing positive ones. The core elements of quality assurance include reliance on semiautonomous agencies; agree-
ment on explicit standards and expectations; an initial self-study by the academic department, faculty, or institution concerned to complement an external review conducted by visiting peers; preparation of written recommendations; public reporting of the results; and recognition that the evaluation process in itself is at least as important as the results (El-Khawas, DePietro-Jurand, and Holm-Nielsen 1998).

Self-evaluation can promote a sense of institutional responsibility by allowing teachers and administrators, with student inputs, to identify areas of strengths and weaknesses and propose corrective actions in the form of a plan for institutional self-improvement. This process can be enhanced by independent assessments carried out by a professional association or a government oversight agency. Quality assurance mechanisms should preferably apply to both public and private tertiary education institutions, to create a level playing field.

Areas of debate surrounding quality assurance processes remain. Among them are whether accreditation should apply to specific courses or programs or whether entire institutions should be evaluated; whether accreditation should be voluntary or mandatory; whether performance indicators should be closely linked to financial rewards; and whether the same evaluation modalities should be used for different segments of the tertiary education system and different delivery modes (in-person teaching, distance education, and online programs). Clearly, with the increased focus on lifelong learning and multiple learning paths and the expansion of nontraditional educational modalities, there is an irreversible trend toward evaluation approaches that emphasize learning outcomes and acquired competencies of students over the input and process aspects of education. International experience also shows that, rather than impose rigid, punitive evaluation mechanisms, it is more effective to put in place flexible systems under which only licensing is compulsory, in order to guarantee minimum academic and public safety requirements, while accreditation and evaluation are designed as voluntary activities that can be encouraged through public information, financial incentives, and nonmonetary rewards. Table 4.2 summarizes the status of quality assurance systems, highlighting a pattern of unequal development across regions.

After quality assurance, institutional autonomy is a key element in the successful transformation of public tertiary education institutions. Autonomous institutions are more responsive to incentives for quality improvement, resource diversification, and efficient use of available resources. Tertiary education institutions must be in a position to exercise meaningful control over the principal factors affecting the quality and costs of their own programs. Autonomy includes among its many characteristics the ability of each institution to set its own admission requirements, determine the size of its student body, assess tuition and
fees, and establish eligibility criteria for financial assistance to needy students. Institutions must also be free to determine their own employment conditions, such as hiring and staff remuneration, so that they can be responsive to new and rapidly changing labor market demands. Finally, institutions must have independent fiscal control, including the ability to reallocate resources internally according to self-determined criteria. Many countries deny institutions such control because of popular, but rigid, line-item budget systems. Independent fiscal control is necessary so that institutions can strengthen weak academic units, cross-subsidize programs, and fund new initiatives quickly and flexibly in response to evolving needs.

The mushrooming of virtual institutions, online education programs, and Internet-based courses raises challenging issues of intellectual property rights and academic freedom with respect to the ownership and control of educational materials developed exclusively for online or multimedia dissemination. The lack of clarity in the definition of ownership rights and in the rules for use of new educational materials can pit academics against their home institutions or against the institution contracting them to prepare course materials for online dissemination or broadcasting. Recent controversies in the United States have involved

<table>
<thead>
<tr>
<th>Region</th>
<th>National evaluation or accreditation system present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Europe and Central Asia</td>
<td>Bulgaria, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Mongolia, Poland, Romania, Russia, Slovak Rep., Slovenia</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>Australia, Hong Kong (China), Indonesia, Japan, Rep. of Korea, Malaysia, New Zealand, Philippines, Singapore</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Mexico, Nicaragua</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>Israel, Jordan</td>
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<tr>
<td>South Asia</td>
<td>India</td>
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<tr>
<td>Sub-Saharan Africa</td>
<td>Côte d’Ivoire, Ghana, Kenya, Mauritius, Namibia, Nigeria, South Africa</td>
</tr>
<tr>
<td>Western Europe and North America</td>
<td>Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, Portugal, United Kingdom, United States</td>
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Source: World Bank data.

Table 4.2 Quality Assurance Systems Worldwide
the ownership of online courses, which has become a problematic issue debated in negotiations on the renewal of faculty collective bargaining agreements. Many tertiary education institutions insist on retaining sole ownership of all online and Web courses created by their professors. Some universities, however, such as the University of North Texas, not only recognize ownership of online courses by their creators but also encourage professors to develop such courses through monetary incentives, including royalties, licensing fees, and a share of tuition fees paid by distance education students (Young 2001). The University of Vermont has even considered splitting the ownership of online courses into a content part, belonging to the professor, and an instructional design part, controlled by the university staff (Carnevale 2001). MIT’s decision in 2000 to make all of its course content and materials available free of charge online is likely to influence the debate at other institutions. In many developing countries and transition economies there may be a need for the active involvement of the state in defining clear rules and mechanisms for the recognition and protection of the respective intellectual property rights of tertiary education institutions and professors.

Distance education and open universities hold out the promise of increasing coverage and facilitating access to tertiary education. As with any emerging institution, whether for-profit or nonprofit, there must be not only a realistic business plan but also an appropriate regulatory framework and institutional acceptance to improve the chances of success. (See Box 4.4, on the failure of a U.S. distance education institution.)

Because of the rapidly growing utilization of ITC in tertiary education, the level of development of the national telecommunication infrastructure and its pricing structure have a significant impact on the ability of tertiary education institutions to harness the potential of the technologies. Where the telecommunication sector has not been deregulated—for example, in the Caribbean area and in many countries of Sub-Saharan Africa—prices can be very high, and the quality of services often remains below international standards.

Offering Appropriate Financial Incentives
Government funding is likely to remain the dominant source of financing for tertiary education institutions in most countries. Financial incentives can be applied creatively to steer tertiary education institutions more effectively toward compliance with quality, efficiency, and equity goals.

To create incentives for fiscal efficiency, many OECD members and some developing countries such as Ethiopia and South Africa have abandoned the traditional approach of “negotiated” budgets, which are generally based on historical trends and political influence. These countries now favor alternative mechanisms that link funding to performance in
one way or another. A more transparent and objective way to distribute funds for recurrent expenditures uses a formula linking the amount of resources spent on inputs such as the number of students or professors to some indicator of institutional performance such as the number of graduates. Some U.S. states, including Arkansas, Kentucky, South Carolina, and Tennessee, have experimented with an approach based on the benchmarking of their tertiary education institutions against reference universities and colleges in other states. In Ontario, Canada, the funding of community colleges is linked to the outcome of key performance indicators that measure the degree of satisfaction of students, graduates, and employers with the quality and relevance of the colleges’ programs and services.

It is important to note that no single ideal formula exists that is valid for all countries under all circumstances. Rather, each country, province, or state must choose an allocation mechanism consistent with the goals and priorities of its tertiary education development strategy and must be prepared to make changes over time as these goals and priorities evolve. In Poland, for instance, when a funding formula was introduced at the beginning of the 1990s to bolster quality in public universities, one of the main parameters in the funding equation was the number of full-time professors holding a doctorate. The government was successful in promoting an active training and recruitment policy for all universities, and

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Box 4.4 The Failure of the United States Open University

The United States Open University (USOU), which began operation in 2000 on the model of the U.K. Open University, failed to achieve fiscal solvency. It was forced to close at the end of academic year 2002 for two critical reasons: lack of accreditation, and failure to qualify for student financial aid from public sources.

The USOU had a business plan that was perhaps overoptimistic, predicting wide acceptance of its program through name recognition and affiliation with the well-known U.K. Open University and with established traditional American universities such as the University of Maryland and Indiana State University. Accreditation was anticipated by May 2002 but that prospect did not generate enough public confidence in the program to attract sufficient numbers of students. The delay in accreditation may have been critical as a signal to students of the program’s quality and the value of USOU credentials. Moreover, the ineligibility of USOU students for financial aid prevented needy students from paying tuition through public subsidy, an important element in the financing of U.S. higher education.

academic qualifications rose significantly. But in recent years university leaders have observed that the funding formula does not take into account part-time professionals who are needed to teach classes in key science and technology-related subjects. It is now recognized that the funding formula must be modified accordingly.\(^5\)

Governments can also encourage tertiary education institutions to be more responsive to the needs of society and industry by providing incentives for them to mobilize additional resources through increased cost sharing, the sale of goods and services, and donations. The long list of income-generation activities observed in various parts of the world (see Appendix C) attests to the dynamism and ingenuity of leaders of tertiary education institutions. A critical feature of any policy designed to encourage funding diversification is to allow incremental resources to remain available for use within the institutions that generate them. Regulations that seek to capture resources obtained by the efforts of individual public institutions for use by a central authority, or policies that reduce government budget allocations to offset the incremental resources raised by the institutions, are self-defeating because they eliminate the institutions’ incentive to generate additional income. Positive government incentives for income generation can take the form of, for example, matching funds linked to income generated from outside sources in some ratio, or even of a multiplier coefficient with a funding formula, as practiced in Singapore and in the U.S. state of Kentucky. Favorable tax incentives are also essential to stimulate philanthropic and charitable giving to tertiary education institutions. (In 2001 record donations of US$360 million and US$400 million, respectively, were received by the Rensselaer Polytechnic Institute from an anonymous donor and by Stanford University from the Hewlett Foundation.) Among developing countries, India has one of the most generous tax concession schemes; 100 percent of individual and corporate donations to universities is exempt from taxation.

To encourage creative investment in tertiary education institutions, some countries have established competitive funds to promote quality improvements. Under such systems, institutions are typically invited to formulate project proposals that are reviewed and selected by committees of peers according to transparent procedures and criteria. The eligibility criteria vary from country to country and depend on the specific policy changes sought. In Argentina and Indonesia, for instance, proposals can be submitted by entire universities or by individual faculties or departments. In Chile both public and private institutions are allowed to compete. In Egypt a fund was set up specifically to stimulate reforms within faculties of engineering. The system of performance contracts in France is a variation on the competitive fund mechanism. A four-year contract is prepared and signed by both the state and the institution; the
latter commits itself to a plan of action to achieve quality improvements in return for extrabudgetary financial resources.

One of the added benefits of competitive funding mechanisms is that they encourage tertiary education institutions to undertake strategic planning activities that help them formulate proposals based on a solid identification of needs and a rigorous action plan. Tertiary institutions operate in an increasingly challenging environment in which they compete for students, teaching staff, funding, and markets for their outputs (graduates and research findings). By linking institutional behavior to internal strengths and weaknesses, institutions can use systematic assessment to help define their missions, market niches, and development objectives and to formulate concrete plans for achieving their objectives. It is important to stress that strategic planning is not a one-time exercise. The more successful organizations in the business and academic worlds are those that are relentless in challenging and reinventing themselves in the pursuit of better and more effective ways of responding to the needs of their clients and stakeholders.

Another critical domain of government intervention is student financial aid. As more countries and institutions introduce cost-sharing measures—often in the form of higher tuition fees and reduced subsidies on noninstructional expenditures for such items as food, dormitories, and transportation—the state must play a crucial role in ensuring that no academically qualified student is prevented from studying by lack of financial resources. The statement by the director general of UNESCO on the need for students from well-off families to contribute more toward the cost of their education, made at the October 1998 World Conference on Higher Education, and the February 2001 declaration by the Association of African Universities on the importance of cost sharing, reflect a growing recognition that the cost of tertiary education must be shared in a more equitable way. But increased cost sharing in public universities and further expansion of private tertiary education cannot be implemented equitably without the parallel development of scholarship and loan programs that can guarantee the necessary financial support to deserving low-income students unable to absorb the costs of tertiary education—both the direct costs and the indirect costs in the shape of forgone earnings.

The availability of financial aid for low-income, minority, and other disadvantaged students is a determining factor in equity. Many countries have scholarship programs for the neediest students enrolled in public tertiary education institutions, and some governments offer grants to deserving students wishing to enroll in private institutions. Chile, for instance, operates a system of financial awards for the 28,000 top students selected on the basis of their scores in the national aptitude tests given at the end of secondary school. These awards can be used for
study at either a public or a private university. Mexico and Bangladesh mandate that private universities offer scholarships to at least 5 percent of their students. But public funds for scholarships are limited, and only a small proportion of low-income students is ever likely to benefit. It appears that large-scale assistance affecting a broader segment of financially disadvantaged students can only be made available through student loan programs.

An international review of student loan schemes conducted by the World Bank (Albrecht and Ziderman 1991) found mixed results in both industrial and developing countries. Because of heavily subsidized interest rates, high default rates, and substantial administrative costs, the proportion of loans repaid has not been significant in most cases, seriously compromising the long-term financial sustainability of the programs. Experience suggests that in order to design and administer an efficient and financially viable student loan scheme, the following basic conditions must be met: an appropriate marketing strategy; transparent eligibility criteria to ensure that any subsidy element is targeted to the most deserving students (academically and on social criteria); close supervision of the academic performance of the beneficiaries; carefully designed interest rate and subsidy policies to protect the long-term financial viability of the scheme; efficient collection mechanisms to minimize default; and efficient and stable management (adapted from Woodhall 1997).

In the case of private sector financing for student loan programs, positive regulatory conditions must be in place if commercial banks are to be willing to offer credits to individual students. Three key determinants of the availability of private student loans are (a) physical and logistical access based on geographic location and the capacity of the banking system; (b) the existence of good management information systems in the private banks; and (c) the availability of affordable credit. When these conditions can be satisfied, the development of private student loan schemes is possible.

Even those loan programs in developing countries that have functioned reasonably well, such as ICEES in northern Mexico, CONAPE in Costa Rica, and FUNDAPEC in the Dominican Republic, are relatively small in scale, covering no more than 10 percent of the student population. It is unclear whether efficient administration could be maintained if the programs were substantially expanded. To build up effective and sustainable large-scale programs, two options might be considered: a mixed-loan system of private funding with government guarantees, and an income-contingent loan system.

Under the first approach, following the models prevailing in Canada and the United States, student loans are administered and financed by commercial banks, with a government guarantee in case of default and
an interest subsidy to keep the loans affordable. The system being piloted in Poland since 1998 operates along these lines.

A growing number of countries—among them, Australia, Ghana, New Zealand, South Africa, and Sweden—have opted for the second approach of income-contingent loan systems (sometimes referred to as a graduate tax), in which loan repayments are a fixed proportion of a graduate’s annual income. Although experience to date is limited, these systems can in theory achieve a better balance between effective cost recovery and risk to the borrower than mixed-loan programs. Administration is generally simpler and cheaper because loan recovery is handled through existing collection mechanisms such as the income tax administration or the social security system. Income-contingent loans are also more equitable and satisfy more fully the ability-to-pay principle, since repayments are in direct proportion to a graduate’s income. Although income-contingent loans have considerable promise, their feasibility depends heavily on the existence of a reliable income tax or social security system with access to accurate income information and the administrative capacity to handle loan collection efficiently and effectively.

The development of borderless education represents a new challenge for student financial aid agencies. Eligibility rules and loan features must be adjusted to accommodate the financial needs of the growing number of students who are enrolled on a part-time basis, who pursue distance programs offered by a foreign institution, or who have registered for short-duration continuing education courses instead of traditional degree programs.

Finally, it should be noted that beyond their primary social purpose of providing financial aid to needy students, loan programs can also have a positive impact on the quality of tertiary education. First, the eligibility criteria for the types of universities and colleges in which beneficiaries may enroll tend to favor good-quality institutions over less reputable ones. In Mexico, for instance, the Association of Private Universities, which created a student loan agency in 1998, requires that its members be evaluated by a U.S. accreditation agency, providing a minimum quality standard. Second, student loan beneficiaries tend to achieve better academic results than their peers who do not receive a loan. Recent data released by the Student Loan Institute of Sonora show an 85 percent pass rate for beneficiaries versus 53 percent for the overall student population.

Having reviewed tertiary education and its relationship with the state, we turn, in the next chapter, to what the World Bank Group should be doing to help developing and transition countries transform their tertiary education systems and close the enrollment, equity, and quality gaps between them and the industrial countries.
Notes

1. Examples are Australia, Austria (in its newly established technical institutes modeled after the German Fachhochschulen), Italy, New Zealand, Portugal, Spain, and the United Kingdom.


3. The National Qualifications Framework (NQF) is a key part of New Zealand’s skill development strategy, a new coordinated approach to education and training that aims to raise skill levels in the country. The NQF offers a variety of entry points and pathways for people to gain new skills and qualifications at any age and at any stage in their careers; the objective is lifelong learning, from senior secondary school onward. The NQF gives all citizens the opportunity to receive national recognition for their skills and qualifications. Skills learned on the job can be recognized without the individual’s having to attend a formal training course. The NQF offers greater flexibility for the learner and removes many traditional barriers to learning. Unit standards and qualifications span general, vocational, and industry-based education and training, and each is registered at an appropriate level on the NQF. There are eight levels: levels 1–3 correspond to approximately the same standard as senior secondary education and basic trades training; levels 4–6 approximate advanced trades, technical, and business qualifications; and levels 7–8 are comparable to advanced graduate and postgraduate qualifications. See New Zealand Qualifications Authority, “Framework Explained,” <http://www.nzqa.govt.nz/services/frameworkexplained.html>.

4. In November 1999 a Harvard School of Law professor was reprimanded by Harvard administrators for selling videotaped lectures to the Concord University School of Law, an online degree-granting institution. An Arizona professor who developed a televised writing course for Pima Community College a few years ago has become a celebrity on local television but has had no success in getting the college to acknowledge his copyrights for the broadcast, year after year, of the videotapes he prepared (reported in Carnevale and Young 1999: A45).

5. At the Technology University of Warsaw, the impossibility of offering adequate remuneration to qualified computer science specialists from the private sector is now seen as a major obstacle to maintaining the relevance of some advanced programs (interview with the rector of the Technology University of Warsaw, Jerzy Woźnicki, February 1999).


7. More than half the countries reviewed in this study were in Latin America and the Caribbean.