The Tertiary Education Imperative *Knowledge, Skills and Values for Development*

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CHAPTER 4

ENSURING FINANCIAL SUSTAINABILITY *What is at Stake?*

> Nothing will matter more to Europe's future than the ability of countries, governments, workers and companies to innovate – a process which will depend in no small degree on the efficiency of our decision-making and the quality of our human capital.
>
> (Ederer, 2006)

Even though most countries recognize that their long term prosperity is dependent on their ability to train the qualified professionals, scientists and technicians needed to run the economy and conduct relevant research to spearhead innovations—making the development of a solid tertiary education system a high order priority—, very few countries, rich or poor, have managed to define and implement a sustainable financing strategy. Therefore, the success of any country's vision and plans for developing its tertiary education system will hinge, to a large extent, on the availability of sufficient financial resources and the ability to rely on allocation methods that encourage innovation and effective use of resources among tertiary education institutions.

The urgency of designing and implementing a sustainable financing strategy for the development of tertiary education is strongly felt in all the countries affected by the demographic bulge resulting from rapid population growth and steady progress in reaching the Education for All goals, especially since the launch of the Fast-Track Initiative in 2004. The potential for further expansion is therefore enormous, particularly in Sub-Saharan Africa and South Asia. For instance, between 1999 and 2008, secondary education enrollment grew by 66% in Southeast and East Asia and by 51% in South Asia. The Asian Development Bank projects that the 17-25 year-old age cohort will grow in the lower double digits over the next 20 years (ADB, 2012). Data from Pakistan, for example, illustrate the immense challenge faced by countries confronted with the rising demand for tertiary education. Table 18 projects the number of students under two scenarios. In the first case, even if the enrollment rate stays stable at 2.9%, the number of students would almost double by 2018. In the second case, if Pakistan succeeds in reaching an enrollment rate of 8% by 2018, it would mean tripling the number of students.

Table 18. The Demographic Challenge in Pakistan

Year	*17-23 years age-group*	*Number of students with fixed enrollment rate at 2.9%*	*Number of students if enrollment rate increases to 8%*
2002	19.3 million	560,000	560,000
2006	22.1 million	640,000	880,000
2010	25.4 million	740,000	1,270,000
2014	29.1 million	840,000	1,750,000
2018	33.4 million	970,000	2,340,000

Source: Higher Education Commission, Islamabad

ELEMENTS OF A SUSTAINABLE FINANCING STRATEGY

When it comes to the main characteristics of their resource mobilization strategies, tertiary education systems all over the world can be divided roughly into four main groups:

1. A small number (about 10 countries) of well-funded systems that rely almost exclusively on public funding (more than 1.5% of GDP) and public provision (more than 90% of enrollment). These include the Gulf countries, the Nordic countries, Saudi Arabia, Scotland,[1] Singapore, and Switzerland;
2. A small number (less than 10 countries) of predominantly public systems that are relatively well funded through a combination of public resources and a significant level of cost sharing with appropriate student aid. Examples in this category are Australia, Canada, England, Hong-Kong (China), Iceland, the Netherlands, and New Zealand;
3. Mixed provision systems (more than 25% private enrolment), relatively well funded through public resources and relatively high levels of cost sharing in both public and private institutions. These include Chile, China, Japan, Jordan, Malaysia, South Korea, and the US; and
4. Public and mixed provision systems that tend to be insufficiently funded overall (most countries in the rest of the world).

For the great majority of countries that are in the last category, elaborating a sustainable funding strategy would involve careful consideration of the following three elements:

- *Strategic decisions that influence the medium and long-term financing needs:* what institutional configuration would allow for a balanced expansion of the tertiary education system?

- *Resource mobilization options:* how can public and private funding sources be mobilized in the most effective manner? What are efficient and equitable student aid mechanisms?
- *Resource allocation approaches:* what are appropriate mechanisms to distribute public resources in a manner that encourages innovation and rewards performance?

STRATEGIC DECISIONS INFLUENCING FINANCING REQUIREMENTS

In most developing countries, rapid growth of enrollment cannot be achieved only in the traditional mode of building and funding new public universities with government budgetary resources, considering the prevailing restrictions on public funding. Therefore, even though it is not a financial measure per se, the configuration of the tertiary education system has crucial financing implications. Spreading enrollment growth across a variety of tertiary education institutions—universities and non

universities, public and private—, instead of simply expanding the public university sub-sector, can be an effective strategy for reaching the country's enrollment targets in a more financially manageable way from a public resources perspective. Countries seeking to achieve a balanced enrollment growth must consider a three-pronged strategy: (i) developing dynamic non-university tertiary institutions, (ii) scaling up cost-effective distance education modalities, and (iii) stimulating the expansion of a vibrant, good-quality private tertiary education sub-sector.

Indeed, the conventional model of the European research university has proven too expensive to sustain mass tertiary education enrollment and not appropriate to meet the range of learning needs of a more diverse student body. Increased differentiation in tertiary education, through the development of a whole range of non-university institutions along traditional universities, can help meet the growing social demand and make tertiary education systems more responsive to changing labor market needs. Developing countries governments should therefore include, in their expansion strategy, support for the development of an institutionally differentiated tertiary education system. In this way, it is more feasible to provide a large array of relevant education and training opportunities in a more financially sustainable way.

The South African example is relevant in that respect. In the late 1990s, the democratic government set up a task force charged with elaborating a vision of the size and shape of the post-apartheid tertiary education system. The task force developed a comprehensive plan for diversifying tertiary education opportunities in South Africa,. Box 27 discusses how South Africa approached the need for balanced development of its tertiary education system in the transition years after the end of apartheid.

Box 27. Shape and Size Task Force on Higher Education in South Africa

The Shape and Size Task force of the Council on Higher Education "made the case for higher education as a potentially powerful contributor to, and necessary condition for, achieving the goals of social equity, economic and social development and democracy" and acknowledged that "(h)igher education's primary role is to develop the intellectual and skills capabilities of our society to address and resolve the range of economic (including labor market), social, cultural, political and other challenges faced by society. It must do so at a national, regional and local level as well as contribute to the development of the continent. Higher education must also play a central role in meeting the difficult realities of international competition under the new conditions of globalization."

To meet such broad demands, the higher education system needed to be differentiated and diversified, and the Task Force recognized five significant areas of South Africa's higher education system that, together, provide a comprehensive system to meet the needs of society.

1. Institutions dedicated to high-quality undergraduate teaching and learning ("bedrock institutions"), with locations around the country, providing access to urban and rural students alike. These institutions would have the broadest impact, educating the largest percentage of undergraduate students.
2. Comprehensive post-graduate and research institutions, providing undergraduate education as well as graduate-level degrees, to develop "high-level knowledge producers of national and international standing" across all disciplines.
3. Specifically focused Master's and Doctoral level institutions, providing graduate level opportunities for study and research in three specific areas: Humanities and Social Science; Commerce; and Science, Engineering, and Technology (SET).
4. Distance education, allowing innovations at both existing as campus-based institutions and potential distance focused institution(s) to reach more students. Such institutions should be maintained, expanded, and encouraged as a means of diversifying and modernizing the South African higher education system. These institutions could provide undergraduate and graduate training, depending upon their capacity and ability to meet national accreditation standards.
5. Private higher education, newly accepted in South Africa through the South African constitution and the Higher Education Act of 1997, meeting growing demand for higher education that the public sector cannot expand to serve. Private higher education would, however, have to be subject to accreditation and regulation to assure quality and to minimize any detrimental effects it may have on the public system of higher education.

(Source: Task Force, 2000, Chapter 3, Retrieved 12/22/05 from http://www.polity.org.za/html/govdocs/reports/education/chereport3.html)

Development of the Non-University Sub-Sector

Several categories of institutions have evolved across the five continents, including polytechnics, universities of applied sciences, community colleges, further education colleges, technical and technology institutes, post-secondary vocational training institutes, and distance education institutions (World Bank, 2002). In diversified systems, while universities continue to be the main locus of advanced research, non university institutions perform essential complementary roles by providing relevant and more cost-effective education and training programs.

Table 19, which shows the share of enrolment in non-university institutions in the various regions of the world, reveals that Latin America and East Asia are the leading regions when it comes to institutional differentiation.

Table 19. Enrolment in Non-University Institutions by Region (2011)

Region Proportion

East Asia and the Pacific 26,1 Eastern Europe and Central Asia 16,8 Latin America and the Caribbean 25.0 Middle East and North Africa 13,8 South Asia 9,1 Sub-Saharan Africa 22,4

Source: Based on available data at Edstats, not all countries are represented. Retrieved on October 2013.

Community colleges occupy an important place within differentiated systems, as the US experience reveals. In 2012, community colleges enrolled 44 percent of the total undergraduate student population, playing a key role in the preparation of middle-level workers and employees (Box 28). In South Korea, the number of junior colleges is almost as high as the number of universities (152 versus 178).

Box 28. Importance of Community Colleges in Preparing for Middle-Skills Jobs

According to labor economist Carnevale, executive director of Georgetown University's Center on Education and the Workforce, almost a third—17 million out of 55 million—new job openings between 2010 and 2020 are going to require middle skills, as baby boomers retire and new jobs are created.

Today, the US largely relies on community colleges to provide entry-level training for the sub-baccalaureate workforce, not only in factories and foundries, but in healthcare institutions and white-collar offices. Middle-skill jobs now require more formal workforce preparation in order to make entry-level workers "training ready" as they begin their careers.

Community colleges are ideally situated to provide practical career and technical preparation as well as general learning. The mix of general academic learning and workforce preparation that is the unique signature of the nation's community colleges can lead to both further education and learning on the job. Moreover, the community colleges' mix of general competencies and workforce development allows students to live more fully in their time by becoming more active citizens and successful workers.

Community colleges have for decades been doing what middle-skill workers need now: retraining the long-term unemployed, matching new graduates' skill sets to job opportunities through internships and mentoring, serving regional geographic localities and training-up nontraditional students. These things form the backbone of the community college mandate.

(Source: Carnevale and Smith, 2013)

Vocationally oriented tertiary-level institutions are also able to offer training opportunities that respond flexibly to the labour market demand to young people who are not prepared or motivated to undertake a long academic career. In Brazil for example, the technical training centres operated by SENAI (National Industrial

Training Services) successfully operate multi-disciplinary programs in a large number of professional fields. Its Colombian equivalent, SENA, enrols close to 40% of all post-secondary students. The success of such institutions hinges on their ability to forge and maintain close linkages with employers to guarantee the relevance of the training provided. This is best achieved by welcoming representatives from the productive sectors into the governance bodies of the institutions and involving them in curriculum design and updating.

Universities of applied sciences and technical institutes, such as the German *Fachhochschulen*, the Dutch HBOs and the French IUTs, are other examples of undergraduate professional institutions that are successful at preparing well-trained graduates at a lower cost than regular universities. A number of African countries, including Madagascar, Morocco and Tunisia, have effectively adapted this model as a viable alternative to the more expensive traditional universities.

Asia is perhaps the region that has the greatest degree of institutional diversification, as illustrated by Table 20, which shows the distribution of tertiary education institutions by categories in South East and East Asia.

Distance Education Institutions and Virtual Education

> For countries with low enrollment rates, open universities and distance education programs can be a cost-effective approach for increasing enrolment. The British experience shows that the judicious use of new technologies can be a source of major savings. At the United Kingdom Open University, the cost of producing a graduate is about one-third that at a regular university (Salmi, 2009b).

Table 20. Types and Numbers of Tertiary Institutions with Distance Education Programs

Country	*3-4 Year Degree and Post-Graduate Program 2-4 Year*	*Under-graduate Degree 2 and 3 Year*	*Diploma Short Certificate*	*Professional and Technical*
Cambodia	U & C 69	Institutes 9		
PRC	U 1,237	U 1,264	U & C 1,878	
India	U 504	C 25,951	EC 2,388	
Indonesia	U 460	Acad. 1,034	Poly 162	Lao of. U 178 Cyber 19 C 152
Korea Rep.				
PDR	U 34	Poly 11		
Malaysia	U & UC 1,710	C 488	Poly 24	CC 37
Philippines	U & UC 1,710	C 114	TI 30	
			MS 1,231	PC 2,237 TI 65

Thailand U 102 C 26 PG Inst 6
Sri Lanka U 15 PG Inst 7 Pr Inst 9 CC 19

Vietnam U 239 C 197 PC 408

Notes: Acad = academies, C = colleges, CC = community colleges, Cyber = cyber universities, EC = engineering colleges, Inst = institutes, Lao PDR = Lao People's Democratic Republic, MS = management schools, PC = professional colleges, PG Inst. = postgraduate institutes, Poly = polytechnics, PRC = People's Republic of China, Pr Inst = private institutes, TI = technical institutes, U = universities, UC = university colleges.
Source: ADB (2012)

Distance education has benefited large segments of population in many parts of the world, in countries as diverse as India, South Africa and Thailand. Thailand's two Open Universities, for instance, have been the principal instrument for expanding access and reaching out to students from rural areas and the poorest social stratum. Today, they enroll about 40% of the total student population. Table 21 gives the list of the largest open universities in Asia.

In addition, China has 16 open universities with enrolment ranging from 50,000 to 270,000 students, whereas India has 8 open universities in the 55,000 to 95,000 students range.

On the African continent, the South African Open University, UNISA, caters to 400,000 students, producing the largest numbers of graduates among all South African universities every year.

Table 21. Asian Open Universities by Country and Size

Size	*Country*	*Name of Institution*	*Enrolment*
Mega Open Universities (500,000 students and above)	China	Open University	2,663,500
	India	Indira Gandhi National Open University	2,468,208
Big Open Universities (100,000–499,999 students)	China	Jiangsu Open University	Jiangsu Open University 157,088
		Guangdong Open University	158,271
		Zhejiang Open University	139,974
		Beijing Open University	110,084
		Sichuan Open University	102,917
		Hunan Open University	100,421
		Anhui Open University	100,277
	Pakistan	Allam Iqubal Open University	1,565,783
	Indonesia	Universitas TerbukaIndonesia	646,647
	Korea	Korea National OpenUniversity	

182,000 India Yashwantrao Chavan 342,862 Maharashtra Open 176,048

Thailand Sukhothai Thammathirat Open University 400,000

Ramkhamhaeng University 400,000

Japan Open University, Japan 80,000

Bangladesh Bangladesh Open University 271,630

Source: ADB (2012)

Development of the Private Sector

Faced with a rapidly growing demand for tertiary education, many nations throughout the world have encouraged the growth of private universities and institutes to complement public investment as part of their expansion strategy. In several cases, the growth of private tertiary education has been so significant that more students are enrolled in private institutions than public ones, as can be seen in several Latin American countries (Brazil, Chile, Costa Rica, Dominican Republic, El Salvador, Paraguay) and East Asian economies (Cambodia, Indonesia, Korea, the Philippines). In Sub-Saharan Africa, Côte d'Ivoire has the highest proportion (80%). Table 22 presents the average proportion of private sector enrolment in various regions of the planet, showing that this is a worldwide phenomenon.

Table 22. Private Enrolment as a Share of Total Tertiary Education Enrollment by Region (2011)

Region	*Proportion*
East Asia and the Pacific	42,2
Eastern Europe and Central Asia	29,2
Latin America and the Caribbean	50,2
Middle East and North Africa	39.0
South Asia	47.0
Sub-Saharan Africa	32.0

Source: Based on available data at the World Bank's Edstats database; not all countries are represented.

Africa was the last region to witness private sector development in tertiary education, starting in the late 1980s. But the increase has been spectacular in the past two decades. Between 1990 and 2014, the number of private institutions rose from 30 to about 1,000, compared to a growth of 100 to 500 for public universities (Bloom, Canning, Chan, and Luca, 2014). In Chad, Congo, Côte d'Ivoire and Uganda, private sector enrolment has tripled or quadrupled in the past decade.

Private tertiary education institutions come in many sizes and shapes. Using the two dimensions of degree of selectivity in admission and legal status, it is possible to distinguish among at least ten categories of such institutions, as illustrated by Table 23. Several Asian, Latin American and Middle Eastern countries have highly selective private universities—secular and/or religious—that can often be found among the best institutions in these countries. The second tier of private tertiary education institutions is made of less academically and socially selective institutions. The third tier consists of open access private institutions that are frequently of dubious quality (see Chapter 2).

Table 23. Types of Private Tertiary Education Institutions

Degree of Selectivity	*Legal Status*		
	Elite	*Semi-Elite*	*Non Elite*
Secular Non Profit	X	X	X
Religious Non Profit	X	X	
For-Profit	X	X	
Public-Private Partnerships	X		

In most of the countries where they are allowed to operate, for-profit institutions tend to be the biggest and fastest growing group among private providers. Brazil is

the country with the largest number of students enrolled in for-profit institutions, around 1.5 million, representing close to half of all private sector students. There are few examples of private institutions resulting from a partnership with the State, but where they exist they represent an innovative funding approach. The best known cases can be found in Malaysia, where three public corporations sponsored the establishment of a private university each (Universiti Teknologi Petronas – UTP, Kuala Lumpur Infrastructure University College – KLIUC, and Multimedia University – MMU). In each case, the public corporation financed all the initial investment costs and the first three years of running expenditures. Afterwards the new universities have continued to operate as independent private entities.

In addition to relieving the pressure on government financial resources, the participation of private providers has often introduced a positive dimension of institutional differentiation and has brought about healthy competition. To ensure that their programs meet acceptable standards of quality and relevance, private tertiary institutions are often closely attuned to labor market needs and tend to respond more flexibly to the evolving demand. They are also well placed to launch curricular and pedagogical innovations. This, in turn, can induce public institutions to be less change adverse and more prone to strategic transformation in order to improve the quality and relevance of their program offerings.

The successful development of private tertiary education as a substantial pillar of developing countries' expansion strategy is dependent on two important preconditions to ensure that quality and equity are not negatively affected by the growth of the private sector. In the first place, the existence of many poor quality

providers, documented in Chapter 2, makes it imperative to put in place effective quality assurance mechanisms (licensing and accreditation) and to weed out programs and institutions that do not meet minimal quality standards. The Ghanaian Ministry of Education recently announced that new private tertiary institutions should give priority to science and technology programs in line with the government's determination to implement a 60:40 policy guidelines regarding the distribution of university enrolment, that is 60% in STEM disciplines and no more than 40% in the social sciences and humanities. Promoting quality in the private sectors is all the more important as private institutions in many countries tend to receive a high share of low-income students, as recently documented for example in Chile, Japan, and Poland, as well as in for-profit institutions in the United States (Hunt et al., 2016).

Second, an important consideration that affects the quality of private tertiary education is the need for a clear legal framework to distinguish between for-profit and nonprofit institutions. In many countries—notably in Latin America, Asia and Africa—the absence of such legislation results in the operation of commercial enterprises barely disguised as non-profit universities. This situation has serious implications. First, the owners of private institutions may be more inclined to maximize their profit share than reinvesting any surplus in the education side of the

institution. Second, realizing profits under the guise of a non-profit status may be seen as a form of tax evasion, representing a social loss to the country. Third, some countries—Colombia for example—are concerned about money laundering through private tertiary education institutions.

Legislation allowing private universities to be for-profit, if properly designed, could bring these questionable practices into the open, and allow the profits to be properly taxed. Even when private universities do not get direct subsidies, they may benefit from public contributions indirectly, via student aid and research funding. Therefore all their financial transactions need to be transparent to demonstrate that resources, both public and private, are being properly used. To facilitate a more objective discussion of the pros and cons of allowing for-profit institutions to operate, Figure 19 outlines the main differences between non-profit and for-profit institutions that need to be taken into account by the regulatory framework.

In the second place, governments must monitor carefully the socio-economic distribution of the students enrolled in and graduating from private tertiary education institutions. Some countries, Malaysia and Mexico for example, have mandated a minimal proportion of low-income students to whom private providers should provide financial support. In addition, many countries have put in place a student loan system that allows economically challenged students to access sufficient funding to cover the cost of attending a private institution. A later section of this chapter looks at financial aid specifically.

Governments may also consider two further sets of measures to help achieve the policy goal of increasing enrolments in private institutions. First, in terms of regulatory framework, it would be desirable to remove the unnecessary legal and administrative hurdles that sometimes constrain the establishment or development

of private tertiary education institutions. In Azerbaijan, for example, the Ministry of Education controls the number of students that each private university is allowed to recruit and the type of programs that they are allowed to offer. Allowing flexibility for private tertiary education institutions in terms of faculty hiring and remuneration practices, level of tuition fees, and program and curriculum development would go a long way towards providing a favorable operational environment for these institutions, as long as they abide by existing quality assurance norms.

Second, some governments have found it useful to offer limited subsidies to the private sector as an incentive for stimulating its growth. For example, private institutions might be given the opportunity to apply for government financial support in areas of high priority, such as engineering or health sciences, should investors be willing to set up this kind of expensive programs. Subsidies for teacher salaries could also be considered, as happens in several Sub-Saharan African countries. Another support mechanism could be to grant or lease land to private tertiary education institutions. Finally, needy students enrolled in quality private institutions should be eligible for financial aid, as will be discussed later on.

Non-profit corporation	Criteria	For-profit entity
	Driving Motive	
Welfare / public good		Profit
	Ownership	
Stakeholders	Individual(s), corporation, trust, foundation, other ways of constituting an institution	Shareholders
	Profit Distribution	
Non-distributed (fully reinvested in infrastructure, educational inputs)		Distributed to shareholders
	Tax Liability	
Exempted (revenue, property, duties)	Tax holiday	Fully taxed at corporate rates
	Public Subsidy	
100% eligible		0% eligible

Figure 19. Key Areas of Differentiation between Non-Profit and For-Profit Private Tertiary Education Institutions.
Source: Jamil Salmi, Richard Hopper and Svava Bjarnson

Legal and financial incentives to stimulate the development of quality private tertiary education institutions can of course be justified only on the grounds that they represent a channel for expanding enrolments at a lower public cost than by expanding public universities.

Removing Systemic Barriers and Achieving Synergies

For this type of institutional diversification strategy to work in the long term, it is important to define clear policies supporting the respective roles of the various

types of institutions to avoid the proliferation of dead-end institutions and programs.

One of the challenges that many countries face is to dispel the perception that non-university institutions and programs are second rate compared to the regular universities. An OECD evaluation revealed that it was very much the case in Chile, for example, where the network of professional institutes (IPs) and technical training centers (CFTs) enroll around 30% of the total student population. These institutions are not well considered and their graduates find it difficult to move to the university sub-sector (OECD/World Bank, 2009).

> …the tertiary education system is so segmented, and success in entry tests so strongly correlated with socio-economic characteristics, that students have significantly different academic and career opportunities depending on their secondary education background, family income level, gender and geographical location. The lack of articulation and pathways between technical training centers, professional institutes and universities compounds these issues and makes upward professional mobility extremely difficult for those entering non-university tertiary education.

Similarly, in Colombia, the OECD/World Bank review of tertiary education found that "progress up through the tertiary levels is limited by lack of a National Qualifications Framework, credit transfer, and collaborative arrangements between different tertiary institutions" (OECD/World Bank, 2012).

By contrast, one of the strengths of the Canadian and US tertiary education systems is the flexible articulation between community colleges and universities, allowing for easy transfer from one type of institution to the other and, thereby, offering multiple paths and increased opportunities for students starting in non-university institutions, especially students from under-privileged backgrounds (Brand et al., 2012). This flexibility is especially important in a lifelong learning perspective as tertiary education institutions are increasingly expected to provide relevant training and retraining options to individuals in all stages of their professional life.

A very innovative example of flexible platform can be found in South Korea. The Academic Credit Bank System (ACBS) gives the opportunity to students taking classes from different institutions to acquire an actual degree issued and validated by he Ministry of Education (Box 29).

Box 29. The Korean Academic Credit Bank

South Korea's Academic Credit Bank System (ACBS) allows students to earn a degree by combining credits from different sources. Although the ACBS was formed to give students a path towards a degree without requiring post-secondary institutes to recognize transfer credits, it is also useful for students who have nearly enough qualifications to graduate, but are deterred from finishing by the difficulty of registering in a new institution with the risk of needing to repeat

classes. A particularly pressing problem came from students who had obtained

academic credits from more than one institution but did not possess enough credits from any single institution to obtain a degree. The government's solution to the problem of universities and colleges refusing to deliver greater system flexibility through transfer credits was to create a new system that would, in effect, circumvent the universities on credit transfer.

The easiest way to understand ACBS is to think of it as a degree-granting agency of last resort. What ACBS allows people to do is to pool the credits they have earned from various sources, and package those into a degree, or a plan of study that leads to a degree. Although at first glance this may make ACBS seem like a kind of Prior Learning Assessment and Recognition system, it is in fact nothing of the kind. When the ACBS certifies that someone has a degree, and asks the Ministry of Education to issue the degree, it is not certifying that the degree recipient possesses the knowledge and skills equivalent to someone who holds that same degree from an institution. Rather, it is actually certifying that students have followed an ABCS-designed curriculum and accumulated the relevant number of core, general, and elective credits for that program. To do this, ACBS has, with the assistance of numerous subject matter experts, developed its own standard curriculum for each of its 218 degree programs (109 majors and 24 degrees at the Bachelor's level, and 109 majors and 13 degrees at the Associate's level).

Students wishing to obtain a degree from ACBS begin by registering in a particular program. The registration may occur at any point in the credit accumulation period: some students register before getting a single credit, others do not bother to register until they have all their credits. ACBS verifies that the courses match program requirements and that they have been issued by accredited programs. If the accumulated credits meet the curriculum, then the ACBS recommends that the ministry issue a degree to the student.

ACBS has grown rapidly over the years. In 2006, 12,376 students registered to pursue an associate degree, and 39,146 to seek a bachelor's degree. By 2011, the number of registered students had reached 62,087 at the associate degree level and 59,336 at the bachelor level. ACBS awarded 5,084 associate degrees and 14,009 bachelor degrees in 2006. In 2011, the numbers were 29,585 and 22,769, respectively.

The main challenge confronting ACBS at the moment is the issue of quality control. An increasing percentage of credits are coming from online providers whose quality is difficult to monitor. Already, the ACBS takes extra measures to counter potential fraud, most notably by requiring private online providers to get accredited every two years instead of the usual four. ACBS officials are aware that the possibility of fraud will remain a reputational threat into the indefinite future. The worry is that if abuses are uncovered at a few ACBS-accredited institutions, it will taint all ACBS degrees, past and present.

(Source: Usher, 2014b)

Overcoming this challenge of lack of connection between the university and non university sub-sectors requires establishing functional linkages among the various

types of tertiary education institutions. Universities and non-university institutions should not operate as parallel, unrelated sub-sectors, but rather as complementary parts of a well-articulated system that offers multiple learning paths. Student mobility must be encouraged by removing all the barriers 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 a comprehensive qualifications framework.

To bring about the needed flexibility and ensure a coordinated approach to all education and training institutions and modalities, a growing number of countries have put in place a National Qualifications Framework that defines a variety of entry points and pathways for people seeking to gain new skills and qualifications at any age and at any stage in their careers. A well designed and functioning National Qualifications Framework can give all citizens the opportunity to receive national recognition for their skills and qualifications. Skills learned on the job can be acknowledged officially without the individual's having to attend a formal training course. National Qualifications Frameworks are meant to offer greater flexibility for the learner and remove barriers to learning. Unit standards and qualifications span academic, vocational, and industry-based education and training, and each is registered at an appropriate level on the qualifications framework. The Scottish and Australian national qualifications frameworks are widely recognized as among the most successful experiences in this area (Box 30).

Box 30. Salient Features of the Australian National Qualifications Framework

Australia was one of first generation of national qualifications frameworks, with New Zealand, South Africa, Scotland, and separate frameworks in the rest of Britain. It shares three characteristics with the Scottish credit and qualifications framework, the other relatively successful national qualifications framework.

First, the Australian framework was established in 1995 by incorporating qualifications structures and agreements that had been developed separately for senior secondary certificates, vocational education and higher education over the previous two decades. The current framework, like its Scottish counterpart, is effectively a federation of sub frameworks.

Second, the Australian and Scottish frameworks are relatively loose federations, allowing each sector's qualifications to develop in relative isolation from each other, notwithstanding their formal location in the same framework. Over the same period, Australian governments allowed senior secondary and

higher education qualifications to evolve with benign neglect. In contrast to Australia's loose arrangement, the New Zealand government sought to

incorporate senior secondary and university qualifications within a more tightly regulated framework, which provoked substantial resistance.

Thirdly, even in vocational education Australia's qualifications framework has served an important role within a broader qualifications system that includes quality assurance and mechanisms for assessing, awarding and transferring credit. The South African government and many countries that have developed qualifications frameworks more recently have imposed on them understandable but excessive expectations.

(Source: Moodie, 2009)

Finally, given the important resource constraints faced by most developing countries, governments should aim, as much as possible, to achieve synergies by focusing investment on projects that can benefit the entire system. Several countries, for instance Sri Lanka, have established a dedicated national Internet network linking all tertiary education and research institutions. Others have set up a national digital library with open access education resources serving the entire tertiary education system. A few years ago, the World Bank facilitated a process of technology transfer between Pakistan and Madagascar for the establishment of a digital library in the latter country. Other nations could benefit from similar South-South collaborative initiatives. In the late 1990s, Argentina was a pioneer in designing and implementing an integrated Management Information System (MIS) for all tertiary education institutions.

RESOURCE MOBILIZATION OPTIONS

Besides the institutional and program diversification options analyzed in the previous section, developing countries can rely on the following four principal sources of revenue to fund the expansion and improvement of their tertiary education system:

- Public budget
- Cost sharing
- Income generation
- Donor support

Before analyzing each of the first three options, it is important to observe that, considering the resource-constrained environment of most developing countries, the scope for mobilizing significantly higher levels of resources and the likely balance among the four potential sources of revenue will depend greatly on the specific situation and characteristics of each country. Table 24 illustrates the diversity of situations and tries to assess the range of funding options available to various groups of countries, also taking into account the potential role of the private sector along the lines discussed earlier in this chapter.

Table 24. Potential for Resource Mobilization

Funding Source	*Low-Income Countries*	*Middle-Income Countries*	*Upper Middle-Income Countries*

Public Budget X XX XXX Cost Sharing X XX XX

Income Generation X XX XXX Private Sector Development XX XXX

XXX Donor Support XX X –

Comparing Brazil and China provides interesting lessons on the differential impact of funding strategies. By the end of the Cultural Revolution in the early 1980s, China's tertiary education system had been crippled and the enrolment rate was around 2%. Since then, the country's leadership has invested steadily in the reconstruction and development of a strong tertiary education system. In 1997, aware that it would be difficult if not impossible to keep expanding while, at the same time, improving quality and building up a strong research capacity, China introduced universal cost sharing at the undergraduate level. Brazil's tertiary education expansion strategy, by contrast, combines tuition-free public universities and a large private sector. Table 25 presents the main features of each country's funding approach and assesses the relative importance of each funding source.

Table 25. Brazil and China's Funding Strategies

Funding Source Brazil China

Public Budget XX XXX

Cost Sharing – XX

Income Generation X X

Private Sector Development XXX X

Figure 20, which compares the evolution of tertiary level enrolment in both countries in the past two decades, shows that China's funding strategy has been more effective than Brazil's.

Besides looking at the quantitative growth dimension, it is also relevant to assess the evolution of the research capacity of universities in both countries. The number of universities included in the Shanghai ranking is a useful proxy in that respect. In 2004, Brazil and China had 4 and 16 universities among the top 500, respectively. Ten years later, the number was 6 for Brazil and 44 for China. In 2015, Brazil placed only the University of São Paulo in the top 200, compared to 10 Chinese universities.

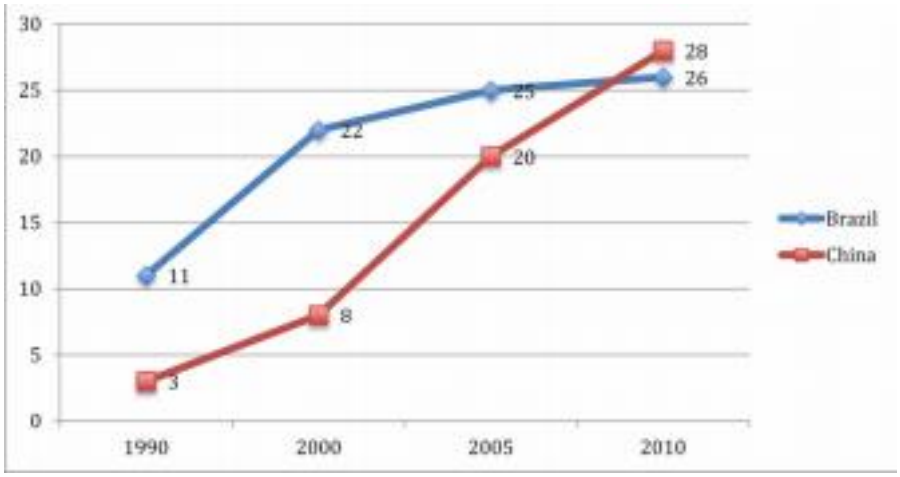

Figure 20. Evolution of Tertiary Enrolment Rate in Brazil and China (%) (1990–2010). Source: UIS

Increasing Public Resources

Considering the substantial social benefits of tertiary education analyzed in Chapter 2, developing countries with low levels of public funding must consider carefully the feasibility of significantly increasing public spending to be able to translate their vision for the future of tertiary education into reality. The purpose would not only be to cover the quantitative expansion and qualitative improvement needs of the sub-sector, but also to invest in university research in carefully selected areas of high priority.

While it is difficult to ascertain a universal rule to set the ideal proportion of GDP that should go to tertiary education, developing countries can combine a rigorous assessment of their financing needs with a methodical benchmarking of other economies at similar levels of development to define a reasonable level of resource commitment. In Eastern Europe and Central Asia, for instance, several countries—especially among the former Yugoslav republics and former members of the Soviet Union—spend no more than 0.3% of GDP, which makes them outliers compared to the European average of 1.1% of GDP.

In Latin America, where the average public spending is 0.6% of GDP, several countries invest much less, as illustrated by Table 26, which compares the resource mobilization efforts of a number of Latin American and East Asian nations.

In Sub-Saharan Africa, several countries spend less than 0.5%% of GDP, compared to the average proportion of 0.8% allocated between 1998 and 2012. Angola, Benin, Cameroon, Congo, the Gambia, Liberia, Mauritius, Mozambique and Swaziland all devote less than 10% of their education budget to tertiary education,

Table 26. Resource Mobilization in Selected Latin American and East Asian Countries

(2012) Public Funding as a Share of GDP

Tuition fees as share of unit cost in public institutions	**≤ 0.5**	**0.5 – 1**	**≥ 1 ≥ 40** Chile
	≤ 20 Dominican Rep., El Salvador, Guatemala, Guyana, Myanmar, Peru		
	20 – 40 South Korea, Thailand		
	China, Indonesia, Jamaica, Malaysia		

Source: Salmi (2013d)

Argentina, Brazil, Colombia, Honduras, Mexico, Paraguay Bolivia, Barbados Costa Rica, Cuba, Ecuador, Nicaragua Venezuela

compared to the regional average of 18.5% (Darvas et al., 2016). It is on the basis of this kind of analysis that the Ministry of Higher Education could negotiate with the Ministry of Finance a funding formula that would provide increased financing to meet the development needs of the sub-sector.

At the same time, the financial needs of the tertiary education sub-sector cannot be considered without adopting a comprehensive resource allocation approach for the entire education system. While there is no magic formula determining the "correct" share of resources to be devoted to tertiary education within the overall education envelope, certain principles and guidelines can be followed to ensure a balanced distribution of budgetary resources and an appropriate sequencing of investment across the various subsectors of the education system, considering a country's level and pattern of educational development, pace of economic growth, and fiscal situation.

International data show that expenditures on tertiary education usually range between 15 and 25 percent of public education expenditures. As observed by the World Bank (2002), developing countries that devote more than 20 percent of their education budget to tertiary education, especially those countries that have not achieved universal primary education coverage, usually show a distorted pattern of resource allocation. In these economies, a disproportionate share of resources goes to supporting an elitist university system while the budget allocated to preschool, basic and secondary education remains insufficient. In addition, as observed in Chapter 2, many tertiary education systems are wasteful because of the high proportion of dropouts and, in the case of Francophone Sub-Saharan Africa and North Africa, the high proportion of non-educational expenditures such as untargeted student subsidies at the expense of non-salary pedagogical inputs that are crucial for quality learning.

The time dimension is also important to consider. Careful attention to sequencing is an integral part of the resource allocation decision-making process. Most

developing countries do not have sufficient resources to invest heavily in all

education sub-sectors at the same time. The example of Korea, which was able to raise its tertiary education enrollment from 2% at the time of independence in 1945 to one of the highest levels in the world today, contains useful lessons in this respect. The development of tertiary education took place in five distinct phases. It started in the 1950s with the slow expansion of public institutions and the introduction, from the beginning, of cost sharing at a level equivalent to 30 percent of recurrent expenditures. The second phase, in the 1960s, consisted in encouraging the establishment of private institutions, with some public funding support for capital costs and scholarships. Then, in the 1970s and 1980s, the government focused on the expansion of engineering and technical education to meet new manpower requirements as the country industrialized, emphasizing the development of both universities and junior colleges to train all levels of human capital needed by the economy. During the fourth phase, throughout the 1990s, government efforts focused on quality, accountability, and R&D capacity. Finally, in the past fifteen years, Korea has invested a lot to strengthen the competitiveness of its top universities, notably through the Brain 21 program. Figure 21 shows clearly how the sequencing of investment in tertiary education followed the expansion of enrolment at the lower levels of the education system.

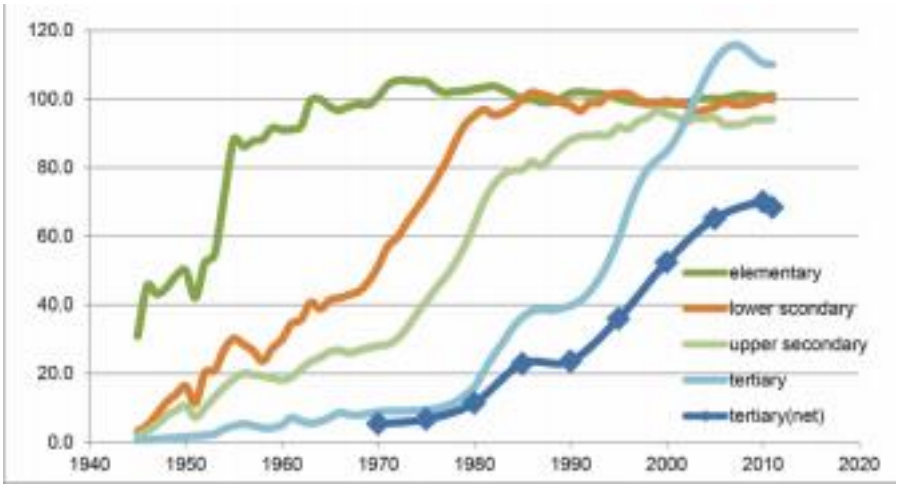

Figure 21. Evolution of Enrolment Rates in Korea (1945–2010).
Source: MOE, Yearbook of Educational Statistics; UIS

Finally, governments can facilitate public-private partnerships to finance some of the costs of quantitative expansion. In many countries, the construction and management of student residences is taking place under public-private partnership arrangements. A recent experience in Senegal has showed that public-private

partnerships can also be leveraged to build new universities. Commercial banks from Senegal and China worked together to finance the construction of two new public

universities, at a slightly subsidized interest rate.

Cost Sharing and Student Aid

> If in some states of the (United States) higher education institutions are also "free", that only means in fact defraying the cost of education of the upper classes from the general tax receipts. (Karl Marx and Friedrich Engels[2])

Even though tuition fees are an important element of any resource mobilization strategy—representing a significant source of potential income—, it is one of the most difficult topics in the tertiary education policy agenda. Indeed, very few countries have been able to conduct a rational debate on tuition fees in tertiary education. As many governments have found out the hard way, any attempt to introduce fees in a democratic setting is fraught with ideological battles and carries high political risks.

In fact, after a period of relative calm on university campuses all over the world during the first decade of the new century, since 2011 strong student against the high cost of university education have happened in places as diverse as Berkeley, Bogota, Johannesburg, Khartoum, Lilongwe, London, Madrid, Montreal, Santiago and Seoul. The general mood against cost-sharing explains why the few Western European governments that had introduced fees in the 2000s—for instance Austria, Germany (in several states – *Länder*), Slovenia (for parallel track students) —have rescinded them.

A similar trend can be observed in other parts of the world. In Canada, the provincial government of Quebec acceded to the protesting students' demand not to increase fees in 2012. The same thing happened in South Africa in 2015. In South Korea, the government cut fees by 15% in 2013. In Chile, after the student riots in 2011 and 2012, the abolition of tuition fees in both public and private universities was one of the main pledges of the new president during her electoral campaign in the fall of 2013. Finding ways of implementing this promise, in a country where 70% of the students are enrolled in private institutions, has been a major preoccupation of the Bachelet government.

However, notwithstanding the strong political opposition against cost sharing, the reality of many countries' fiscal situation and the acute needs for increased tertiary education investment make it difficult to avoid looking seriously at introducing or raising tuition fees. Ireland, which had abolished fees in the late 1990s, had to reintroduce them in 2013 to the tune of 3,000 Euros a year under the pressure of the financial crisis. A recent report prepared by an expert committee in Denmark calls for a serious look at the introduction of tuition fees for all students, which would be a first in a Nordic country.

If this is the case in industrial economies, it is even truer in the developing world. While public funding remains the main source of funding for tertiary education in

most countries in the world, the fact is that few developing countries have been able

to significantly expand their tertiary education system, while at the same time improving its quality, without relying on a growing financial contribution from students and their families to cover the cost of studies. One of the most emblematic cases is China, which in 1997 introduced fees equivalent to 20% of the cost of undergraduate studies. In the Middle East, the Jordanian and Palestinian public universities get most of their resources from student contributions. Until the recent political problem caused by the student upheaval, Chile was the only country in Latin America with significant tuition fees in its public universities, amounting to about 30% of unit costs. Since the fall of the Berlin Wall and the disappearance of the Soviet Union, most newly independent nations of Eastern Europe and Central Asia have followed a dual-fee approach to generate resources to compensate for their falling public budgets. Many Sub-Saharan African governments have allowed their public universities to adopt a similar funding strategy, whereby the most academically qualified students are able to study free of charge while the next group of students can enroll into fee-paying programs. In Jordan, the students who get the best grades at the end of high school pay a subsidized annual tuition fee of $1,650 while the others must pay about $4,000 a year.

The first element in any policy move towards greater cost sharing consists in establishing with clarity the purpose of seeking an increased financial contribution from students and their family. It is possible to identify four categories of reasons that, separately or together, justify the need to raise tuition fees: (i) pressure to expand access, (ii) the modernization agenda, (iii) efficiency considerations, and (iv) the equity imperative. First of all, many developing countries face strong pressure to increase tertiary education opportunities because of the demographic bulge combined with progress in meeting the Education for All goals. These countries require additional resources to raise the enrolment rate in response to growing demand from high school graduates. Furthermore, as analyzed in Chapter 2, most tertiary education systems in the developing world find themselves under-resourced to the point of compromising the quality of teaching and learning, reducing the relevance of programs and constraining the research output. Third, not only do these countries suffer from the resources constraint, but in addition available resources are not used efficiently. In open-access and tuition-free tertiary education systems, many incoming students are not sufficiently well prepared academically. This translates into high dropout rates, especially during the first year of studies. Moreover, students have little incentives to graduate on time because of the perceived low cost of study. Available data indicate that students who are aware of the cost of their education are more likely to have good academic results and graduate on time. In Colombia, for example, which has the oldest and one of the most comprehensive student loan systems in the world, the completion rate of loan beneficiaries is 64%, compared to only 48% on average for the general student population (OECD/World Bank, 2012).

Finally, there is a strong equity rationale for increased cost sharing. Even though, intuitively, keeping tertiary education free of charge for all is seen as the best way of promoting equity, evidence shows that free tertiary education is in reality highly

inequitable, unless the country has a highly progressive income tax system, as is the case in the Nordic countries. Experience in many parts of the world indicates that there is a strongly regressive element in most publicly funded tertiary education systems whereby students from advantaged backgrounds tend to access tertiary education disproportionately at no personal cost and obtain higher remuneration after graduating, yet rely on less-advantaged general taxpayers to fund their education. Independently from the need for additional resources, financing of tertiary education would be much more equitable if students from high and middle income families would contribute a larger share of the cost of their education. In addition, in countries with a significant private sector, many low-income students, who are unable to gain access to public universities, pay for high cost private tertiary education.

A few examples can illustrate this general phenomenon. In Colombia, an estimate of the benefits incidence of public subsidies in tertiary education reveals that the richer two quintiles receive a disproportionately high share of resources, almost three quarters of the total amount of subsidies going to public universities (Table 27).

Table 27. Benefits Incidence of Public Subsidies in Public Universities

(2008) Quintile 1 Quintile 2 Quintile 3 Quintile 4 Quintile 5 3.7% 6.7%

15.4% 28.4% 45.8%

Source: Méndez (2009)

Still in the Latin American region—which has the highest degree of inequality in the world—, the comparison of Argentina, Brazil and Chile sheds light on the relative impact of different access and funding policies. Argentina has an open access and free tuition policy; Brazil has a restricted access and free tuition policy; and Chile has both restricted access and high tuition fees. The natural expectation would be that Chile would display the highest degree of inequality. But, in reality, Brazil is the most regressive country, followed by Argentina, and then Chile. As revealed by Table 28, which shows the enrolment rate in each country for the various socio-economic groups, Chile has the highest enrolment rate for the poorest two quintiles.

Looking at data on access to the University of São Paulo—Brazil's most prestigious public university—, helps to understand the mechanisms at play. The great majority of candidates (86%) who take the entrance examination (*vestibular*) come from public high schools; only 14% of the candidates went to a private high school. But, based on the results of the highly competitive examination (admission rate of 1 to 15), 70% of the students admitted come from private secondary schools,

Table 28. Enrolment Rates by Income Quintile in Argentina, Brazil and Chile

Quintile Argentina Brazil Chile

Q1 18.0% 5.0% 21.2%

Q2 25.3% 6.3% 26.4%

Q3 29.5% 11.6% 26.0%

Q4 38.2% 20.7% 37.5%

Q5 56.6% 47.0% 61.6%

Source: SEDLAC database at http://sedlac.econo.unlp.edu.ar/eng/statistics-detalle.php?idE=37

versus 30% from public schools. Thus, the sons and daughters of high-income families with strong cultural capital, who can afford to study in the expensive good quality private secondary schools, are better prepared to get access to the top public universities of the country, which are tuition-free (Rodriguez et al., 2008). This fundamental dimension of inequality was perfectly captured by Brazil's best known weekly magazine, *Veja*, which run an article on 2 October 2006 with the following title: "Poor people pay to study in private faculties whereas rich people study for free in public universities."

In the case of Chile, the better results from an equity viewpoint stem from the fact that, even though all students must pay high tuition fees in both public and private universities, the country has a comprehensive system of well-targeted grants and student loans to protect low-income students. In fact, a benefit incidence analysis of public expenditures in Chile's tertiary education system clearly demonstrated that the student aid subsidies are distributed in a progressive way, whereas the public funds allocated directly to the universities are highly regressive. Table 29 displays the share of public resources benefiting each income quintile group for each funding mechanism. If the share of resources is equal to or larger than the share of that group in the overall student population, the funding mechanism is neutral or has a positive distributive effect. A smaller share means that the mechanism is regressive.

The data clearly show that, in spite of the high level of tuition fees in the Chilean public universities, the tertiary education financing system allocates a larger share of resources (38%) to students from the poorest two quintiles, who represent 24% of the total student population. This is essentially due to the prominence of student aid mechanisms (scholarships and student loans) in the funding system. The scholarships and the guaranteed student loan program for students enrolled in private institutions (CAE) are the most progressive mechanisms. The subsidized loan programme aimed at students in the most prestigious public and private universities (*Fondo Solidario*), however, is not well targeted from an equity perspective, since students

Table 29. Benefits Incidence Analysis of Public Spending in Tertiary Education Q1

Q2 Q3 Q4 Q5 Total

Direct budgetary transfer 10.8% 14.1% 18.3% 25.9% 30.9% 100.0% Indirect budgetary transfer 7.6% 13.9% 18.2% 27.6% 32.7% 100.0% Scholarships 53.8% 32.3% 6.2% 7.4% 0.3% 100.0% Fondo Solidario 21.5% 14.3% 35.7% 28.5% 0.0% 100.0% INGRESA/CAE 39.7% 24.1% 22.7% 13.5% 0.0% 100.0% MECESUP/FDI 11.2% 15.0% 19.6% 26.6% 27.5% 100.0% CONICYT 7.2% 13.0% 16.1% 24.3% 39.4% 100.0%

Share of public subsidies received by each quintile	20.7%	17.3%	21.0%	22.9%	18.1%	100.0%
Share of each quintile in total enrolment	10.0%	14.1%	18.7%	26.6%	30.5%	100.0%

Source: Prepared by Jamil Salmi in the context of the 2009 OECD Review of Tertiary Education in Chile (OECD/World Bank, 2009)

from Quintiles 3 and 4 are over-represented. Figure 22 illustrates this distribution pattern in a striking way.

Available data on Sub-Saharan African countries show a similar pattern of regressive distribution of public expenditures on tertiary education in the absence of tuition fees. Figure 23, which shows the Lorenz Curve for six countries, demonstrates a high degree of inequality among income groups. In Malawi, for instance, the richest top 20 percent of the population enjoys as much as 92 percent of government spending on tertiary education. In Mali the richest income quintile receives 86 percent and in Tanzania the share is 82 percent. As recently observed by a team of African researchers:

> Overall, free higher education in Africa was built on inequitable social structures. As a result, it reproduced and reinforced these inequalities. To state the obvious, free higher education in highly unequal societies mainly benefits the already privileged, who have the significant social, cultural and economic capital required to access, participate and succeed in education. … Equally, free higher education was an expensive project that the poor political economies could hardly afford in the long run. As enrolments grew, more resources were required to support a meaningful university experience. These resources were simply not available. … Consequently, free higher education eventually spawned ideal conditions for prolonged protests and mediocre higher education. (Langa et al., 2016)

The same situation can be observed in most North African and Middle Eastern countries, where public tertiary education continues to be tuition-free. A few years

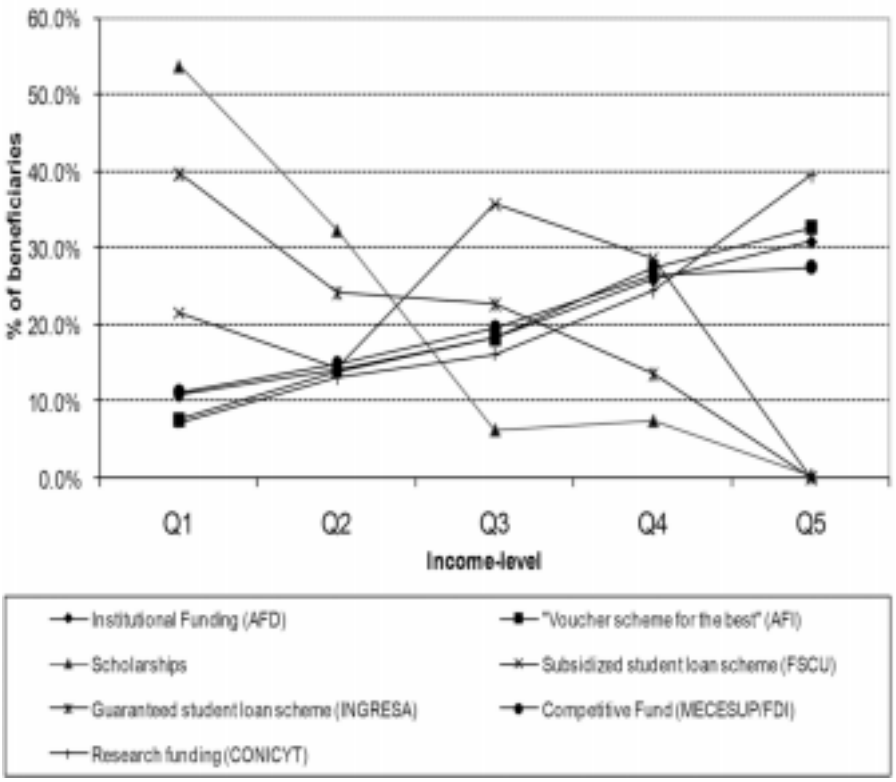

Figure 22. Benefits Incidence Analysis of Public Investment in Chile.
Source: OECD/World Bank (2009)

ago, Egypt's Prime Minister made a statement in the press to the effect that "free education is not a right for everyone but only for the needy".

One of the important policy implications of this analysis is that looking at tuition fees in isolation shows only half of the picture. To be complete, any analysis of funding patterns should focus on the net cost to students, representing the actual cost to students once scholarships and loans are deducted from the cost of tuition fees. This gives a different picture than just looking at tuition fees, as illustrated by Figure 24, which shows the level of tuition fees in a number of OECD countries, together with the proportion of students who benefit from a scholarship or a loan for their studies. Countries that have a comprehensive student aid program can afford significantly higher fees than those where students have limited access to scholarships and loans.

The Canadian Province of Ontario recently took the positive initiative of merging its various scholarships and loan remission programs into a large up-front grants

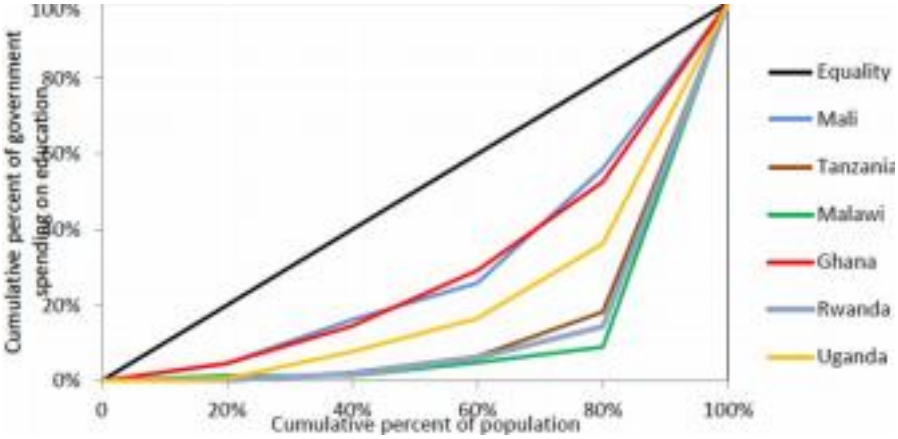

Figure 23. Concentration Curves for Tertiary Education Public Expenditures in Selected SSA Countries.
Source: LMS data

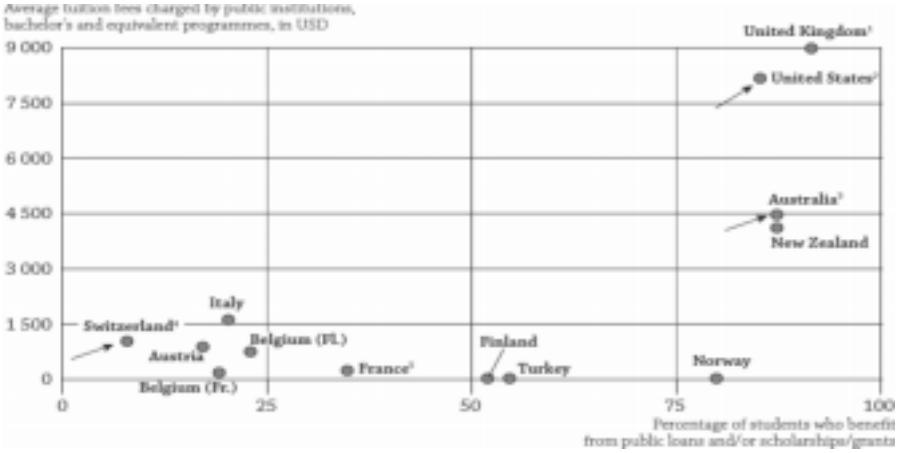

Figure 24. Tuition Fees and Student Aid in Selected OECD Countries.
Source: Education at a Glance (2015)

package. This amounts to offering tuition-free to all low-income students in net terms (Usher, 2016).

In designing and implementing any cost sharing scheme, policy makers should ensure that all students have equal opportunities to access and complete tertiary education, for both fairness and efficiency reasons. From an equity viewpoint,

modern theories of redistributive justice all converge in moving the traditional focus of social justice from outcomes—such as welfare or utilities—to opportunities. For

example, Roemer (1998) recognized that, while individual bear some responsibility for their own welfare, they also face situations over which they have no control, which influence how much effort they can invest and the level of welfare that they are eventually able to achieve. Equity, therefore, demands an "equal opportunity policy" to equalize "advantages" among individuals from groups with different circumstances.

The economic efficiency argument in favor of equity is just as strong. A talented, low-income and/or minority high school graduate who is denied entry into tertiary education represents an absolute loss of human capital for the individual person and for society as a whole. The lack of opportunities for access and success in tertiary education leads to under-developed human resources and a resulting shortfall in the capacity to capture economic and social benefits (Harbison, 1964; Bowen and Bok, 1998; Ramcharan, 2004).

Bearing all the aspects analyzed so far into mind, an effective and equitable cost sharing policy would require consideration of the following principles:

- *Universality*. When cost sharing is introduced, tuition fees should apply to all students. No distinction should be made among eligible students, based on their grades or the type of institution they enroll into.
- *Elimination of economic barriers*. No academically qualified student should be denied the opportunity to access and complete tertiary education for economic reasons.
- *Sequencing*. Tuition fees should be introduced only after a well-functioning and targeted student aid system is in place. Policy-makers should judiciously consider the net cost to students when allocating student aid.
- *Overcoming political opposition*. The political economy of cost sharing is as important as its technical aspects. Any policy change aiming at increasing cost sharing should carefully address the political dimensions.

Having these in mind, international experience points to the following three key technical dimensions of cost-sharing policies: (i) level of tuition fees, (ii) financial aid package, and (iii) policy monitoring and evaluation.

The first element that policy-makers and university leaders need to pay attention to is to set cost sharing at an appropriate level. It is essential to ensure that the resources that would be mobilized by introducing tuition fees and/or reducing related subsidies (food, lodging, transportation, etc.) are substantial enough to justify the high political cost of putting in motion this kind of financial reform. Policy-makers looking at the option of increasing cost sharing should base their decisions about the level of fees and subsidies on detailed financial scenarios. These scenarios, which would seek to balance financing needs and additional resources brought in through cost sharing, should factor in the likely impact of the country's demographic trends and the quantitative expansion needs. Together with setting the level of tuition fees,

policy-makers ought to propose a clear and transparent mechanism for determining the yearly increase in relation to the official cost of living index. The second set of considerations is related to the configuration and scope of the financial aid package

that must accompany the planned increases in cost sharing. Junor and Usher (2004) defined three main categories of monetary barriers to accessing tertiary education: the cost-benefit barrier, the liquidity (cash-constraint) barrier, and the debt aversion (internalized liquidity constraint) barrier. The cost benefit barrier occurs when an individual decides that the costs of attending university (including tuition and living expenses as well as the opportunity cost of not working during the duration of the study program) outweigh the returns to their education. The accuracy of a cost-benefit analysis depends on the correctness of the information used in the calculations of both costs and benefits. Research has shown that low-income students are less likely to have access to and use accurate information (Usher, 2005).

Liquidity barriers refer to a student's inability to gather the necessary resources to pursue tertiary education after having decided that the benefits do outweigh the costs. The amount of personal resources, resources from family and friends, scholarships, grants and/or loans are not enough to cover tertiary education costs, and they either do not have access to or are unaware of financing alternatives to supplement their existing resources.

Finally, debt aversion constraints exist when a student values the benefits of tertiary education relative to its costs, can borrow to access to sufficient financial resources, but chooses not to enroll because the financial resources available to him/ her include loans. Prospective students with debt aversion simply do not wish to or are afraid to incur debt that must be repaid at some point in time.

In recognition of these constraints, the financial aid package should be sufficiently substantial to protect economically vulnerable students against cost increases, in the form of either tuition fees or living expenditures. In addition, it is important to achieve a proper balance between scholarships and student loans. Scholarships and grants should preferably be limited to the neediest students; otherwise it would defeat the purpose of greater cost sharing. At the same time, adequate information should be available to reach low-income students with debt aversion.

In theory, going the student loan route is preferable because of the sustainability dimension. If the program operates with reasonably high levels of repayment, it allows for inter-generational transfers that make it much more financially sustainable than scholarships, which are pure grants. But by their very nature, student loan institutions are faced with a constant dilemma. As instruments of equity promotion, they have an important social responsibility and need to be designed in such a way as to serve the funding needs of students from low-income groups. As financial institutions, they are required to respect basic principles of financial viability to be able to continue to operate in a sustainable fashion and serve generation after generation of students. These two inherently antagonistic objectives are difficult to reconcile and represent the fundamental challenge faced by any student loan scheme.

Few student loan institutions have managed to overcome this challenge. However, the Colombian Student Loan Agency, ICETEX, stands out as a success story, at least as far as mortgage-type loan systems are concerned (Box 31).

Box 31. ICETEX, a Success Story

In 1950, Colombia created the first student loan institution in the world, called ICETEX (*Instituto Colombiano de Crédito Educativo y Estudios Técnicos en el Exterior).* It is still one of the best of its kind.

Between 2002 and 2011, the total number of annual ICETEX student loans (new and renewed) increased from 53,969 to 155,199, reaching 20% of the student population (one of the highest share in the developing world). The institution provides subsidized loans to students from the poorest families, ethnic and racial minorities, and students with disability. For instance, the poorest students have a zero real interest rate during the loan period.

ICETEX provides different payment options available to borrowers in order to ease repayment burdens by having payments grow as income grows. The repayment schedule is related to the evolution of the salaries of young graduates helping borrowers to pay.

Since the mid-2000s, ICETEX has benefited from a strong and innovative leadership team, who has been able to mobilize additional resources from government and multilateral donors. As a result, it has extended coverage to about 20 percent of the total student population, focusing on students from the lowest socioeconomic groups. This is the highest student loan coverage rate in Latin America and one of the best in the developing world. ICETEX has also improved its collection record—reducing overdue loans from 22 percent in 2007 to 13 percent in 2009— and modernized its management practices, bringing operating costs from 12 percent in 2002 to 3 percent in 2010. It has also entered into partnerships with participating universities to provide not only financial but also academic and psychological support to loan beneficiaries, which has greatly reduced dropout rates among loan beneficiaries, compared to students without a loan. To help students from the lowest income groups, ICETEX also supplements its student loans with scholarships to cover living expenses.

Today, ICETEX's main challenge is to continue increasing resources to finance more and poorer students. Evidence suggests that most dropouts for financial reasons could be avoided if there were more ICETEX loans and subsidies available.

(Source: OECD/World Bank, 2012)

Many factors explain the relative success or failure of any student loan scheme, including design considerations relative to the interest rate and administrative costs, the strength of its leadership, the quality of management practices and systems, and

the ability to react rapidly and flexibly whenever problems arise. But loan collection is certainly the most important element. At the end of the day, no matter what type of student-loan system operates in a country, it is doomed unless its collection mechanism is designed and operates in an effective manner.

Traditional, mortgage-type student-loan schemes are vulnerable by design. Without an income-contingent provision, times of economic crisis are bound to cause

repayment difficulties, as unemployment rises and incomes stagnate. Obviously, income-contingent loan systems have a higher probability of success. International experience shows that income-contingent loans, designed after the Australian and New Zealand HECS model, tend to have higher repayment rates. Not only are they more efficient in terms of loan recovery through the national tax system, but also they are more equitable since graduates pay a fixed proportion of their income and are exempted from repaying if they are unemployed or their income is below a pre-determined ceiling (Box 32). Econometric calculations have showed that the repayment burden with mortgage loans can be very high for low income graduates—as much as 80 per cent for those in the lowest parts of the income distribution (Chapman et al., 2014). The student protest movement that erupted in Chile in 2011 was partly triggered by the growing loan burden of students benefitting from a CAE loan, which did not have an income-contingent provision.

Box 32. Income Contingent Loans in Australia and New Zealand

Australia and New Zealand, which both charged little or no fees at their public institutions until the late 1980s, adopted similar strategies to increase cost sharing. They raised fees while introducing student loan programs that would allow students to pay for these higher fees over an extended period of time based on their incomes once they completed their education. But the two countries took somewhat divergent approaches in the characteristics of the income contingent repayment schedules they adopted.

In 1988, Australia chose a very innovative approach to cost sharing through its Higher Education Contribution Scheme (HECS). Faced with prospective widespread student opposition to tuition fees, Australian policy makers decided to use public funds to pay the fees while students were enrolled. All students participating in HECS were then obligated to repay these fees after completing their tertiary education as a percentage of their incomes, although students with below average incomes were exempted from repayment. HECS applies only to fees, not living expenses.

Beginning in 1990, New Zealand took the somewhat more traditional approach of imposing fees at their public institutions that students and their families would be required to pay upfront when they enrolled. Beginning in 1992, students could borrow to cover the cost of these fees as well as a substantial amount of living expenses. Repayment of these loans would then occur through the income

tax system based on a percentage of students' income once they completed their education.

New Zealand and Australia have moved in different directions since they first adopted their income contingent student loan schemes. New Zealand began with a more market-based approach in which virtually all borrowers (who then

constituted a small share of students) repaid on the basis of their income, with interest rates slightly below market levels. Over time, New Zealand has moved away from market-based principles by increasing subsidies, including exempting more low-income students from making repayments and forgiving interest on most loans. As a result, borrowing has grown substantially over time. The overriding policy concern now is that high debt levels are leading an increasing number of graduates to emigrate from New Zealand to avoid their loan repayment obligations. The government has responded by making repayments for borrowers who remain in New Zealand interest-free beginning in 2006.

Australia's HECS system, on the other hand, created a public expenditure challenge at first as a growing number of students enrolled in higher education without having to pay fees upfront. To reduce pressure on the budget, Australia moved in 1997 toward the market by reducing HECS subsidies and introducing three bands of HECS tuition fees as well as reducing the level of income exempted from HECS repayment. In addition, more market-based loan programs have been developed for the more than one-quarter of students who do not participate in HECS, including growing numbers of foreign students and domestic students enrolling in fields of study not covered by HECS. In 2016, the government closed the loophole that allowed Australians living abroad to leave their debt unpaid while being away from Australia. Estimates indicate that, as a result of that loophole, as much as A$800 million have remained unpaid since the launch of the student loan program in 1989.

So as Australia has moved to a more market-based student loan system, New Zealand has moved away from a market-oriented approach. But in both cases, the income-contingent loan system has contributed to significant increases in coverage and improved equity.

(Source: Chapman et al., 2014; Salmi and Hauptman, 2006)

The third and last technical consideration concerns the requirement to put in place a solid monitoring and evaluation system, with appropriate results indicators and baseline data, to follow up on the equity and efficiency impact of increased cost-sharing and watch out for possible unanticipated consequences. In Australia, the introduction of a uniform income-contingent loan system in 1988—the Higher Education Contribution Scheme (HECS)—was accompanied by a carefully designed monitoring system that allowed the government to verify that low-income students would not be adversely affected (Chapman, 2006). The Colombian student loan agency has been able to improve its repayment levels drastically in the past

decade thanks to its institutional research program. Careful study of the academic trajectory of loan beneficiaries helped realize that the default cases were, in their majority, linked to economic difficulties faced by dropouts. ICETEX has moved to an integrated financial and academic approach that includes not only giving out loans to low-income students but also working collaboratively with their universities to ensure the availability of appropriate academic and psychological support for the most vulnerable students. This has greatly reduced dropout rates among loan

beneficiaries, compared to students without a loan (Salmi, 2014).

Besides the technical elements of cost sharing policies, the political sensitivity of introducing tuition fees should be carefully taken into consideration to avoid any strong backlash. Not only do governments ensure that low-income students are protected against adverse equity effects through a comprehensive student aid system, but in addition they need to create ownership among the various stakeholders and mobilize support for the proposed measures through the kinds of consensus-building efforts described in Chapter 3. The main purpose of these consensus-building activities would be to establish a clear linkage between increased cost sharing and the expected improvements that additional financial resources would bring about. Sometimes university leaders are better placed to initiate this kind of dialogue at the institutional level rather than having the government authorities imposing cost sharing nationally. Box 33 documents a positive experience at the University of Sonora in Northern Mexico, where the rector was able to convince the students to start paying tuition fees. The public University of Trujillo in Peru went through a similar process a few years ago.

Box 33. 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). By the late 1990s, the only payment the students would make was a symbolic contribution equivalent to 2 US Cents a year. 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 that middle income and high income students would pay tuition fees of about 140 US$. Part of the money raised in that manner was to be used to give grants to students from low income families.

In Northern Mexico, by contrast, the rector of the public University of Sonora was successful in introducing cost-sharing after initiating, in 1993, a consensus-building process to explain to the academic staff and the students the need for supplementary resources to maintain the quality of teaching and learning. In doing this, the rector took advantage of an ambiguous clause in the Mexican Constitution, which allows autonomous public universities to make all

the necessary decisions to manage their financial resources notwithstanding the "free education" mandate.

After strong 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 coupled with a participatory mechanism to allocate these resources to equity and quality-improvement initiatives. Since 1994, the students have paid an annual

contribution of about US$500. 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.

Income Generation

Income generation at the institutional level is the third resource mobilization pillar that developing countries can rely on. Governments ought to actively encourage public tertiary education institutions to diversify their income sources beyond the collection of tuition fees. While the potential for resource mobilization is much more limited in low-income countries than in middle- and upper-middle income nations, tertiary education institutions could actively seek additional resources through donations, contract research, consultancies, continuing education and other fund raising activities. Appendix 1 presents the range of income generation practices that can be found throughout the world.

Not all sources of income have the same potential. Contrarily to what is commonly assumed, technology transfer is not a highly productive activity from an income generation viewpoint, and very few institutions hit the jackpot with path-breaking innovations that can be successfully commercialized. Even at Harvard University, income from technology transfer licenses is equivalent to only 1% of annual fund raising receipts. Experience suggests that providing continuing education, undertaking productive activities and raising funds from alumni and corporations are the most important income generation sources.

Fund raising is not seen as a priority area in most developing countries, especially in low-income countries, based on the assumption that resources are limited throughout the economy and that philanthropy is not part of the culture. However, experience shows that, even in resource-constrained countries, there are always a few rich firms and persons to be found, who are likely to make financial contributions to universities if they are approached and presented with good reasons to make a donation. Box 34 summarizes the experience with fund raising in Europe. Even though, the economic conditions may be substantially different from those prevailing in developing countries, the fact that European universities are new to fund raising

makes it likely that some lessons may be relevant to developing countries that have also little if any experience in this area.

Box 34. Lessons from Fund-Raising Efforts in Europe

A 2011 European Commission survey on the fund raising efforts of European universities found that success was related to three main factors. The first is what is defined as institutional privilege, i.e. the wealth and reputation of the university, as well as pre-existing relationships with potential donors. The second is the level of commitment of senior academic leaders and other research

staff in this regard. The third and final factor has to do with the environmental of a university, namely its location and the geo-political context in which it operates.

With regards to the type of donors, the survey showed that European universities raise money mostly from private corporations, while contributions from alumni are much less frequent.

Experience indicates that successful fund-raising involves the following dimensions:

- Commitment of management and governing bodies.
- Full participation of academic staff.
- Financial and human investment in fund-raising activities.
- Rewards for staff successful in attracting philanthropic donations.
- Production and dissemination of materials for fund-raising purposes, such as a website, leaflets and brochures.
- Use of a database to maintain and update records on interactions with donors.
- Reporting on philanthropy in universities' annual financial reports.

One of the successful cases of effective fund-raising efforts came from the United Kingdom, where a government-sponsored matching funding scheme was set up in 2008 following similar positive experiences in Singapore and Hong Kong. Between 2008 and 2011, the government matched any eligible gift made to a participating tertiary education institution.

(Sources: European Commission (2011), *Giving in Evidence: Fundraising from Philanthropy in European Universities*, Brussels. http://ec.europa.eu/research/era/docs/en/fundraising-from-philanthropy.pdf. Universities UK (3 April 2008), "Information for Members: Formal Launch of the Matched Funding Scheme for English HE institutions", *Investor in People*, London.)

To facilitate resource diversification at the institutional level, developing countries governments must make sure that two conditions are fulfilled. First, it is important to give the clear signal that success in fund raising will be rewarded rather than punished. A few industrial countries—for example Canada, Hong Kong,

Singapore and the United States—have designed effective matching grant programs as an incentive for fund-raising. While the lack of public resources will most likely make it difficult for developing countries to put in place similar matching programs, at the very least they should not penalize the most enterprising tertiary education institutions. Too often, Ministries of Finance are tempted to cut down the budget allocation to universities that are perceived as successful in raising funds from the private sector or from philanthropists, or to require that they transfer to the Treasury any surplus money that they raise by themselves. Practices that reduce government budget allocations to offset the incremental resources raised by the institutions and regulations that seek to recuperate the resources obtained by public tertiary institutions are self-defeating as they remove the incentive to generate additional

income.

Second, it is important to put in place tax deductions that make it advantageous for firms and individuals to donate money to tertiary education institutions. Favorable tax incentives have been found to be crucial for stimulating philanthropic and charitable gifts to tertiary education institutions. In the United States, 2015 was a record year in terms of fund raising, with tertiary education institutions bringing in a total of $40 billion. Stanford University alone pulled in $1.6 billion, ahead of Harvard with $1.1 billion. Canada, Hong Kong, several Continental European countries and the United Kingdom also offer generous tax incentives to encourage donations to universities. In Latin America, Brazil, Colombia and Chile permit income tax deductions. Among developing countries, India has one of the most generous tax concession schemes, as all individual and corporate donations to universities are fully exempt from taxation (World Bank, 2002).

Innovative Models: Social Innovation and Tertiary Education Funding

"Hi there. My name is Ron Steen. I am selling 2% of my future earnings for a chance to go to college." This provocative invitation, posted on eBay in August 2006 by an incoming freshman at California State University, Fullerton, stirred up a controversial debate on the financing challenges faced by US tertiary education (Hess, 2008). Even though eBay did not allow Mr. Steen to keep his ad, his creative initiative illustrated at the time the need to explore new funding solutions. The estimated $1.2 trillion student debt in the United States today attests to the fact that the funding problem has not gone away, if anything it has grown more serious. And if this is true in one of the richest countries in the world, the urgency is even greater in many if not most middle- and low-income nations, where the rapidly growing demand for tertiary education opportunities against a background of constrained fiscal situation threatens to blow into a severe financial crisis.

Thus, in addition to the traditional forms of resource mobilization analyzed so far in this chapter, developing countries governments may want to challenge tertiary education stakeholders to think boldly and set up innovative partnerships that could generate additional funding in a direct or indirect way. In October 2015, the design

firm OpenIDEO launched an online challenge to invite the global community to come up with novel ideas to address the financing crisis in tertiary education (McNeal, 2016). The competition yielded many innovative projects that could well be applied to a developing country context, or that could in turn spark other audacious income generation initiatives for tertiary education. The six most promising crowd-sourced solutions are featured below:

- *Tuition Heroes*. The company monitors the annual growth rate of tuition fees and grants a "tuition hero" status to colleges and universities that keep their tuition in line with normal inflation rates. "Tuition hero" institutions receive a badge to display on their websites and in marketing materials. The concept is similar to the way the Energy Star badge gives efficient appliances brand recognition. In this case, tertiary education institutions are recognized for their efforts to remain

accessible to academically qualified low-income students.

- *PelotonU*. This project matches working adults who seek a college degree to online programs, and provides an office where they can study and receive additional tutoring and mentorship. It guarantees that students will graduate debt-free. To achieve this, PelotonU helps the students obtain a government scholarship for low-income students (Pell Grants), employers pay for student support, and local donors provide gap funding.
- *One Day Experience*. The company helps 15- to 24-year-olds with career counseling. It connects young adults who are not yet ready to choose a career and professionals who can give them a sense of what working in their industry would be like. The Barcelona-based company connects the indecisive young people with professionals in their fields of interest and gives them the opportunity of shadowing these mentors on the job for a day. The company provides "vouchers" that young adults use to cash in for one day on the job with experts in industries that they are interested in knowing better.
- *ALEX—Anyone's Learning Experience*. Based on the observation that colleges and universities have many empty seats in courses each year, Anyone's Learning Experience operates as a marketplace for online and in-person individual courses. People who want to take college courses, whether they are pursuing a degree for the first time or they are changing careers, log into the platform and can find university courses that have extra places. Students pay for individual classes at institutions and ALEX takes a commission of the sale.
- *Brighter Investment*. Inspired by Kiva, the online micro-lending organization, Brighter Investment provides a platform for potential donors who want to support university education for high-potential students in developing countries who face financial barriers to getting their degree. Aspiring students sign up with the platform and apply to the university of their choice. Vancouver-based Brighter Investment pools together funds from individual donors to cover the cost of tuition and living expenses. Students repay a share of their income for a set period of time after graduation.

- *1Gen2Fund*. This is a crowd-funding platform that helps first-generation students successfully complete a four-year college degree. The platform gives first generation students who meet certain criteria a place to ask for financial help, receive e-coaching and access additional support resources. Rather than competing for individual scholarships, students ask directly for funds, while alumni and other donors sign up to provide financial support and mentorship. 1Gen2Fund is a nonprofit organization that operates on a percentage of donations.

Other innovative financial technology initiatives have seen the light since the 2015 OpenIDEO challenge. Based on the same principles as ALEX, Bludesks.com has a more systematic concentration on low-income students and students in developing countries. Low-income students register at bludesks.com for discounted prices in on-campus courses in a large network of high-quality tertiary education institutions. Students receive academic credit for their completed courses and benefit from an on-

campus experience. The participating institutions receive additional income by using their capacity more efficiently and get recognition for reaching out to a more diverse student population that otherwise could not afford them.

Climb Credit is a startup providing student loans that take into consideration the value of the courses financed and the expected returns. It focuses on sizeable, quantifiable increases in earnings. With an average loan size of $10,000, it tends to finance programs and courses less than a year in duration in about 70 carefully vetted institutions, ranging from coding to web design to programming robots for carmakers—the program with the highest return (The Economist, 2017).

Monash University's recent issuing of a green bond is also worth mentioning in this respect. The Australian university became the first education institution in the world to issue a "climate bond" in the US private placement market (SI, 2016). The university is planning to use the US$ 158 million raised to finance several green projects, such as environmentally-friendly buildings and solar panels.

RESOURCE ALLOCATION MECHANISMS

To encourage an effective use of public resources and stimulate healthy competition among tertiary education institutions—both public and private ones—, developing countries governments could introduce a combination of performance-based budget allocation mechanisms that would provide financial incentives for improved institutional results and better alignment with national policy goals (OECD, 2007; Salmi and Hauptman, 2006). Policy-makers may consider four main types of innovative allocation mechanisms, separately or combined, to achieve this purpose:

- Output-based funding formulas: output or outcome measures are used to determine all or a portion of a funding formula, for example universities are paid for the number of students they graduate, sometimes with higher prices for graduates in certain fields of study or with specific skills.

- Performance contracts: governments enter into regulatory agreements with institutions on the basis of set performance-based objectives.
- Competitive funds: financing is awarded to peer-reviewed proposals designed to achieve institutional improvement or national policy objectives. • Vouchers: students receive coupons representing a given financial value that allows them to pay for their studies at any tertiary education institution of their choice.

Formula Funding

A transparent and objective way of distributing funds for recurrent expenditures is to use a formula linking the amount of resources allocated to some indicator of institutional performance such as the number of graduates. Examples of countries that have built performance into their funding formulas include:

- Denmark, which has a "taximeter model" in which 30 to 50 percent of recurrent funds are paid in relation to the number of students who successfully pass exams

every academic year;
- The Netherlands, where half of recurrent funding is based on the number of degrees awarded as an incentive to improve internal efficiency;
- South Africa, where the funding formula takes both the number of students enrolled and the number of graduates into consideration;
- Australia, where funding for doctoral student places is based on a formula comprising graduates (40%), research outputs (10%) and research income, including competitive winnings (50%).

A 2004 feasibility study in Malaysia calculated that the country could save between 10 and 30 percent of the operating budget of the public universities if resources were allocated on the basis of a funding formula using unit costs benchmarked against the better performing institutions in the tertiary education system (Innovation Associates, 2004).

Performance Contracts

Performance contracts are non-binding regulatory agreements negotiated between governments and tertiary education institutions, which define a set of mutual obligations. In return for the participating universities' commitment to meeting the performance targets established in the agreement, the government provides additional funding. The agreements may be with several or all institutions in a given tertiary education system, or with a single institution. All or a portion of the funding may be conditional upon the participating institutions meeting the requirements in the contracts. The agreements can be prospectively funded or reviewed and acted upon retrospectively.

Examples of countries or sub-national jurisdictions with performance contracts include:

- Chile, which introduced "performance agreements" on a pilot basis in the late 2000s, whereby four public universities volunteered to receive additional resources to implement a carefully negotiated institutional improvement plan with clear progress and outcome indicators. The scheme has since been extended to a large number of public and private universities.
- Denmark, which uses "development contracts" setting long-term improvement goals for the institutions.
- Finland, which has contracts that set out general goals for the entire tertiary education system as well as specific goals for each institution.
- France, which since 1989 has allocated about one third of the recurrent budget through four-year performance contracts. Payments are made when the contracts are signed, with a post-evaluation to assess the degree and effectiveness of implementation.
- Several US States, for example Louisiana, Maryland, Michigan, North Dakota, South Carolina, Tennessee, and Virginia, use some kinds of postsecondary

education “compacts”.

Competitive Funds

Competitive funds have proven their strength and value as an effective and flexible resource allocation mechanism for investment purposes (Box 35). With this mechanism, institutions are generally invited to formulate project proposals that are reviewed and selected by committees of peers according to transparent procedures and criteria. Positive experience in countries as diverse as Chile, Egypt and Indonesia has shown the ability of competitive funds to help improve quality and relevance, promote pedagogical innovation, and foster better management, objectives that are difficult to achieve through funding formulas. Developing countries governments could seriously consider piloting a competitive fund as a channel for allocating public investment funds to tertiary education institutions.

The actual eligibility criteria vary from country to country and depend on the specific policy changes sought. In Argentina and Indonesia, for instance, proposals could be submitted by entire universities or by individual faculties or departments. In Chile, both public and private institutions were allowed to compete. In Egypt a fund was set up in the early 1990s specifically to stimulate reforms in engineering education.

One of competitive funds’ principal benefits is the practice of transparency and fair play through the establishment of clear criteria and procedures and the creation of an independent monitoring committee. An additional benefit of competitive funding mechanisms is that they encourage universities to undertake strategic planning activities, which help them formulate proposals based on a solid identification of needs and a rigorous action plan.

Box 35. Effectiveness of Competitive Funds

Well-designed competitive funds can greatly stimulate the performance of tertiary education institutions and can be powerful vehicles for transformation and innovation. One of the first such funds, Argentina’s Quality Improvement Fund (FOMEC), which was supported by the World Bank, was instrumental in encouraging universities to engage in strategic planning for the strengthening of existing programs and the creation of new interdisciplinary graduate programs. Within universities, faculties that had never worked together started cooperating in the design and implementation of joint projects. In Egypt, the Engineering Education Fund helped introduce the notion of competitive bidding and peer evaluation in the allocation of public investment resources. The fund promoted, in an effective manner, the transformation of traditional engineering degrees into more applied programs with close linkages with industry.

A fundamental prerequisite for the effective operation of competitive funds—and one of their significant benefits—is the practice of transparency and fair play through the establishment of clear procedures and selection criteria, as well as

the creation of an independent monitoring committee. In Chile, a second wave of tertiary education reforms was supported by a competitive fund for diversification (development of technical institutes in the non-university sector) and quality improvement of all public universities. Brazil, Mexico, and Uganda have encouraged the formation of advanced human capital in science and technology through competitive funding mechanisms. In all these cases, the participation of international peer review experts has figured prominently.

In countries with a diversified tertiary education system with unequally developed types of institutions, there may be a compelling argument for offering several financing windows with different criteria, or for setting up compensatory mechanisms to create a level playing field between strong and weak institutions. In a project supported by the World Bank in Indonesia during the 1990s, three different windows were designed to serve universities according to their actual institutional capacity. In the last tertiary education project financed by the World Bank in China in the early 2000s, the top universities were required to form a partnership with a university in a poor province as a condition for competing. In Egypt the competitive fund in the Engineering Education Reform project in the late 1980s had a special window for technical assistance to help less experienced engineering schools prepare well-formulated proposals. In Chile, a special window was opened to provide preparation funds for universities requiring assistance in strategic planning and subproject formulation.

(Source: World Bank, 2002)

Vouchers

A few governments keen on introducing more competition in their tertiary education system have also considered using grants, student loans and vouchers as a possible funding approach based on student demand, following the recent examples of several Eastern European and Central Asian countries, such as the former Soviet Republics of Kazakhstan, Georgia and Azerbaijan, and Lithuania. The purpose of demand-based funding is to promote greater competition among tertiary education providers in response to student interests by giving public support indirectly through the users rather than directly to the tertiary education providers (Salmi and Hauptman, 2006). While many countries use voucher-type arrangements to pay institutions for enrolments driven by student preferences, there are few that rely on grants or demand-side vouchers in the form of coupons provided to students to pay for recurrent expenses. The most prominent example can be found in Kazakhstan, where about 20% of the students receive voucher-like education grants that they carry with them to the public or private university of their choice, so long as they opt for studying a grant-carrying program aligned with the country's development priorities. The eligibility of beneficiary students is determined by their score in the highly competitive Unified National Test and their expressed choice of program of study. As far as the participating tertiary education institutions are concerned, eligibility is a function of their standing with the quality assurance unit of the Ministry of Education and Science, and the subjects they offer.

Even after only a few years of operation, the Kazakh voucher system appears to be functioning as an effective allocation instrument to reward those institutions that are perceived as better performing and offer national priority subjects. All tertiary education institutions, public and private alike, are very attentive to their ability to attract education grant beneficiaries. The voucher scheme also seems to be a powerful tool for promoting the growth of the better quality private institutions, which have been able to multiply the number of grant beneficiaries whom they attract within the first three years of implementation of the vouchers scheme (OECD/World Bank, 2007).

The Universities for All program (ProUni) launched in 2006 in Brazil constitutes an interesting variation of a voucher scheme. Under that program, the Brazilian government uses tax incentives to "buy" places in private universities for deserving, academically qualified low income students who were not admitted in the top public universities because of the limited number of places. In Colombia, a similar scheme operates in the Department of Antioquia. A public-private partnership bringing together the local authorities, a group of private universities and a number of private sector employers offers qualified low income students who could not find a place in a public university the opportunity to study at one of the local private universities. The students get a scholarship equivalent to 75% of the tuition costs and receive a loan from the National Student Loan Agency (ICETEX) for the remaining 25%.

Another example of student demand-based funding was put in place in 2015 in Colombia. The Government introduced a new scholarship scheme at the national level, called *Ser Pila Paga* ("It pays to be a good student"), whereby the top high school graduates from low-income families could get funding to study at any accredited university, public or private.

CONCLUSION

My interest is in the future
because I am going to spend the rest of my life there.

Charles Kettering

Financing reform is not an end in itself. Its primary purpose is ensuring medium and long-term funding sustainability in order to expand tertiary education opportunities, improve the quality and relevance of existing programs, and build research capacity. This is why it is an essential part of the national vision about the future of tertiary education and the reform plans of any country keen on strengthening the contribution of its tertiary education system to economic and social development.

The reality on the ground is that most developing countries face serious financial tensions and difficult funding trade-offs as they attempt to reconcile the three fundamental objectives of quantitative expansion, quality improvements and R&D strengthening, as illustrated by Figure 25.

Figure 25. Fundamental Tensions among Financing Needs

In this context, the elaboration of a sustainable financing strategy for the development of tertiary education in any country can be guided by the following six principles.

- plan the shape and institutional configuration of the tertiary education system strategically, bearing in mind that this determines, to a large extent, the cost of expanding coverage and operating tertiary education institutions;
- mobilize sufficient resources, public and private, to meet the needs for quantitative expansion and quality improvement on an equitable basis;

- guarantee that cost-sharing is always accompanied by adequate and sufficient student aid;
- rely on funding mechanisms that are performance-based and, when appropriate, allocated in a competitive manner;
- ensure full compatibility and consistency among the various funding instruments used; and
- offer objectivity and transparency in the design and operation of all funding mechanisms (policy objectives sought, rules and procedures for resource allocation).

NOTES

[1] While it is true that Scotland does not charge fees for Scottish students, 45% of the Scottish universities teaching income is financed by the tuition fees paid by foreign students and non-Scottish UK students, up from 39% in 2010. To a certain extent, the fee-paying students are cross-subsidizing the Scottish students.

[2] Critique of the Gotha Program, chapter IV (1875).