

COUNTING THE COST **Financing Asian Higher Education** **for Inclusive Growth**



The logo for the Asian Development Bank (ADB), consisting of the letters 'ADB' in white serif font on a black square background.

COUNTING THE COST

Financing Asian Higher Education for Inclusive Growth

January 2012

HIGHER EDUCATION IN DYNAMIC ASIA

Asian Development Bank

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Abbreviations

ADB	Asian Development Bank
AIU	Asian International University
APEC	Asia-Pacific Economic Cooperation
APEX	Accelerated Program for Excellence
ARWU	Academic Ranking of World Universities
CPI	Corruption Perceptions Index
GDP	gross domestic product
GER	gross enrollment ratio
HDI	Human Development Index
HEI	higher education institution
IIT	Indian Institute of Technology
MOET	Ministry of Education and Training, Viet Nam
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
PRC	People's Republic of China
QA	quality assurance
R&D	research and development
SJTU	Shanghai Jiao Tong University
UK	United Kingdom
US	United States
USM	Universiti Sains Malaysia

Foreword

Quality education is essential for creating a sustainable human resource base upon which to build a country's development. Asia is experiencing a growing need for skilled managers and professionals in a variety of fields. Investing in higher education will help developing Asian countries build high-income economies, with the innovation, knowledge, and technology needed to thrive in an interconnected, competitive world.

ADB has accumulated significant experience in providing support for improving education systems in its developing member countries. In response to the growing needs of these countries, ADB is boosting its support for higher education. The changing landscape of higher education requires new thinking and updated practices. Questions central to the issue include: What are the strategic and operational priorities for higher education in the region? How should support be targeted to achieve a high, sustainable impact? How can ADB best assist its developing member countries to substantially raise the quality of and expand access to higher education within a reasonable, yet ambitious, timeframe?

To provide insights into the kinds of changes demanded in higher education, ADB financed a major regional study, drawing on the views of subject experts, higher education leaders, regional stakeholders, and participants of an international conference on higher education in Asia.

Higher Education in Dynamic Asia is the result of this study. I am confident that it will provide valuable inputs into the process of higher education reform across Asia. It will also provide critical inputs into ADB's work in assisting the region to develop the full potential of its people.



Bindu N. Lohani
Vice-President (Knowledge Management and Sustainable Development)
Asian Development Bank

Preface

While this publication reviews key aspects of higher education costs and financing, it deliberately goes beyond the usual debates. Linking with the conceptual framework on inclusive growth in Asia, the analysis focuses on costs and financing from the perspectives of disadvantaged students such as the poor, females, ethnic minorities, and those from rural areas. For such students, the rising costs of higher education present a particular problem.

The analysis also focuses on the cost and financing implications of higher education “massification” in Asia. While higher education systems within the region have expanded rapidly over the past decade or more, funding has failed to parallel these increases, at least in per-student terms, thus sharpening long-standing issues of finance and equity, and the links between the two. Massification has also stretched the capacity of governments and agencies to respond, notably in order to maintain quality control and accreditation, including of transnational programs. Inefficient and nontransparent practices in the use of resources in higher education exacerbate the problem.

The two sides of privatization are discussed, too, with one side showing the swift rise of private higher education, while the other side reveals the parallel privatization of public sector higher education institutions (HEIs), which have responded to increased pressures to diversify their income sources through a range of means, including selling places within high-demand programs, increasing fees for such courses, expanding international programs, and mounting parallel “diploma” or “executive” programs for high fees but sometimes of uncertain quality. The implications for equity are troubling—while the poor have often been locked out of quality private HEIs by high fees, they have also been traditionally underrepresented in public HEIs, which have tended to be dominated by wealthier groups. Now some well-established public HEIs are levying fees that are as high as, or even higher than those of reputable private HEIs. However, the options for poor and other disadvantaged students are becoming even more limited.

The costs of higher education are outstripping the capacity of such students to pay, raising acute questions about the need to strengthen social protection measures to make higher education more inclusive and able to contribute to inclusive growth. Higher education policies and systems that are inclusive provide opportunities for each individual to achieve his or her full learning potential and acquire relevant knowledge and skills to effectively serve as members of society and to contribute to inclusive growth. Inclusiveness and equitable access throughout the education system, including higher education, are key factors for establishing the broad human resource base that is essential for advancing inclusive economic growth, leading to greater recognition that educating disadvantaged students and raising their achievement is an

economic imperative. Furthermore, if higher education is developed not merely for producing highly skilled labor, but also for innovation, how ought such benefits to be distributed? What are the costs of inequity? Faced with such challenges, the publication concludes with a set of operational recommendations to effect change.

The publication draws on study material prepared by Anthony R. Welch. Stephen Banta provided editorial advice. Dorothy Geronimo coordinated the typesetting and publication process. Imelda Marquez provided administrative support. Many thanks to all for their contributions.

A handwritten signature in black ink, appearing to read "Jouko Sarvi". The signature is fluid and cursive, with a long horizontal stroke at the end.

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Introduction

Principles predicated upon human capital theory and economic analysis have traditionally dominated debates on financing higher education, whether rate of return analysis, cost sharing plans, or technicalities of student loan schemes. This is clearly important: Higher education needs to be put on a sound financial basis.

The approach taken in this publication deliberately pursues perspectives beyond these debates. It begins by framing the issues in terms of the ongoing massification of higher education and its effects on both financing and equity. Hence the issue of privatization becomes key to the analysis—both the changing balance of public and private education, as well as the privatization of public sector institutions, which are often increasingly poorly financed and more dependent upon fees (Welch 2009). Seen from the perspective of hard-pressed ministers of finance or education, cost sharing in higher education might seem a rational response to scenarios involving increasingly scarce resources, for which there is also intense competition among different sectors: defense, health, housing, and even within subsectors of education. However, for poor and other disadvantaged students, cost sharing might well seem more like cost shifting, with the prospect of such students attending higher education, of any form, much less an institution of quality, becoming ever more remote. The analysis also focuses on the costs of brain drain, corruption, and inequities in access to higher education.

This reminds us that actions have consequences in social policy (even if not always those that are intended), and that financial schemes are as much social instruments as technical solutions. The introduction of business efficiency reforms into United States (US) higher education in the years before World War I, for example, is a potent reminder of what can happen when financial reforms are introduced without due regard for social consequences. While the principle that public funds should be used efficiently is universally accepted, this is not at all the same thing as allowing business efficiency principles alone to rule higher education. The incursion of such rules into higher education had quite specific effects: The curriculum became increasingly vocationalized, while the capacity of the system to respond to the poor, to African-Americans, and to new migrants (who, then as now, often were of non-English speaking background) was marginalized (Callahan 1962, Welch 1998). This was neither equitable, nor efficient, and weakened the quality of the US higher education system.

Mindful of such effects, the analysis here deliberately links the financing of higher education to questions of equity. On this account, any higher education system that fails to cultivate the breadth of talent in society—men and women, rural and urban, rich and poor—is sacrificing both quality and efficiency. The current emphasis on “inclusive growth” by the Asian Development

Bank (ADB) (2010a) and other agencies, now matched by policy statements by national leaders in parts of Asia (Hu 2010), is further recognition of the importance of linking equity to efficiency:

...increases in the absolute gaps between the rich and poor, and very visible changes in the consumption patterns and lifestyles of the rich, are leading to a perceptible increase in social and political tensions, undermining social cohesiveness. ... Persistent and growing inequalities in access to social services such as education and health, exacerbated by income inequalities, are ... a significant concern for developing Asia (Ali and Zhuang 2007:4–5).

The failure to make progress on inclusive growth is not merely inequitable and inefficient, but risks one of three outcomes:

- the stalling of reforms, resulting in lower growth and higher inequalities;
- rising absolute gaps in income and consumption between the poorest and richest quintiles, which could trigger social and political tensions; or
- in extreme forms, armed conflict (Ali and Zhuang 2007:9).

Given also that education, and higher education in particular, is a potent means to lift people from poverty (Luo and Zhu 2008) it is thus critical to link finance to equity in higher education.

The Rise of Higher Education in Asia

Throughout much of developing Asia, enrollments in higher education have risen sharply during the new millennium. This is particularly the case in Southeast Asia, East Asia, and the Pacific, where the number of students rose twelve-fold, from 3.9 million in 1970 to 46.7 million in 2007 (UIS 2009:10). As a result, Southeast and East Asia now have 31% of global enrollments, the largest share globally—a dramatic change.

Viet Nam's plans were to almost double its enrollments by 2010, from 118 per 10,000 to 200, and to more than double the ratio again to 450 by 2020 (HERA 2010; Welch 2010a, 2011b). By 2009, it had reached 195 (ADB 2010b:4). Even if this astonishingly ambitious goal were to be reached, there would be major problems in finding sufficient numbers of highly qualified staff to teach this number.

Current enrollment ratios are still a little higher in India, although enrollment has risen strongly since independence—from 263,000 in 1950/51, in 30 universities and 750 affiliated colleges, to 11 million students in 230 universities and 17,000 degree-granting affiliated colleges and nonaffiliated university-level institutions by 2005 (Kaul 2006:22). Current enrollments, which now exceed 13.6 million, still deliver an enrollment ratio of only 12%, however (ADB 2008:116).

In Malaysia, the 9th Malaysia Plan contained an enrollment ratio target of 40% of the age group 17–23 by 2010 (ADB 2008:116); by 2009, it had reached 36% (UNESCO 2011:182).

The People's Republic of China (PRC) provides a striking example. Setting out to expand its higher education system from an elite to a mass form, its universities tripled their undergraduate enrollment between 1999 and 2003 (from 2 million to 6 million), sustaining enrollment increases of 25%–35% per annum over the period. Total enrollment increased seven-fold over the years 1998–2006 (Wu and Zheng 2008:3), while the gross enrollment ratio (GER) increased commensurately—from 3.4% in 1990 to 22% in 2006. By 2010, enrollment was to reach 30 million, with a GER of 25%. Although such increases were not sustainable in the longer term, they have changed the landscape of PRC higher education.

A recent ADB report (ADB 2008) summarized the dramatic, if uneven, enrollment growth in higher education across the Asian region. Table 1 shows striking differences in enrollment growth, with Indonesia and Thailand experiencing growth rates of just under 700% over the period, while Malaysia and Viet Nam exhibited growth of 1,300% or more.

Table 1 Student Enrollment in Higher Education in Selected Asian Countries, 1980–2007

Country	1980	1998	2004	2007	2007/1980 as %
Indonesia	543,175	-	3,551,092	3,755,187	691
Malaysia	57,650	443,000	731,077	748,797	1,299
Thailand	361,400	1,814,000	2,251,453	2,469,808	683
Viet Nam	114,701	810,000	1,328,485	1,590,000	1,386
PRC	1,662,796	7,364,000	18,090,814	25,346,279	1,524
India	3,545,818	-	11,852,936	14,862,962	419

- = data unavailable, PRC = People's Republic of China.

Sources: ADB 2008:113; UIS: <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>;

University Grants Commission (India): <http://www.ugc.ac.in>

Of the two regional giants, enrollment growth in the PRC, off a narrower base, has been much more robust than that of India. The relatively modest total of 1.66 million enrollees in the PRC in 1980 reached 25.4 million in 2007—a rise of 1,524%. India's growth from 3.55 million to 14.86 million over the same period represents a much more modest rise of 419%. Indeed, in general, expansion was markedly slower in South and Central Asia than in East Asia. In the former, the average annual growth rate was 5.2% per year (down from a peak growth rate of 7% during the 1990s), and rates actually fell after 2000. Overall, the student population grew almost six-fold from 2.8 million to 18.5 million between 1970 and 2007 (UNESCO 2009:10). A second illustration of this growth can be seen in Table 2, which summarizes rises in GERs over the past two decades for the same countries.

Table 2 Gross Enrollment Ratios in Higher Education in Selected Asian Countries, 1991–2008

Country	1991	1999	2002	2004	2008
Indonesia	9	-	15	17	21
Malaysia	8	23	29	31	32
Thailand	-	32	38	41	45
Viet Nam	2	11	10	10	-
PRC	3	6	13	18	23
India	6	-	11	12	13 ^a

- = data unavailable, PRC = People's Republic of China.

^a 2007.

Sources: ADB 2008:114; UIS: <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>;

<http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=167>

Why has this dramatic expansion occurred? The explanation lies largely in the belief, common to governments across Asia, that generating more highly skilled labor will unleash greater innovation and boost economic growth rates. Rather than wealth being based principally on primary or secondary industries, as was the case in the past, the future is seen to belong

to knowledge- and innovation-based industries. According to this knowledge economy perspective, a latter-day form of human capital theory, “human capital is now seen as central to the development of advanced economies and democratic societies” (OECD 2002:118). “Human capital supports economic output” (OECD 2002:128). Not all knowledge is equally valued, of course; some forms of knowledge (particularly those associated with business, science, and technology) are taken to be more central to economic development than others.

Governments throughout Asia have signed on to this broad reform charter. But for this future to be realized, further expansion of higher education will be critical. In the 21st century, it is universities that are held to be the critical incubators of the highly skilled talent upon which the knowledge economy is based (World Bank 2002). Higher education, therefore, has become a major pillar of the knowledge economy scenarios envisaged by Asian governments.

Knowledge economy assumptions are underpinning the growth of higher education, although as indicated below, there are also other pillars supporting this growth throughout much of Asia. But if substantial rises in higher education enrollments have been common, equivalent growth in state support has not. An exception is Viet Nam, where official figures show that support for public higher education has increased, relative to other levels (Lan 2010), but it is unlikely that such support will be sustainable into the future if growth continues at the same rates. Indeed, Viet Nam’s target is for 40% of all enrollment to be private by 2020 (compared with the current 12%). The growth of the private sector in India is particularly strong in the mushrooming private unaided sector. The PRC illustrates the dilemma starkly: While enrollments rose more than five-fold in just a few years—from 1,084,000 in 1999 to 5,461,000 in 2006—state support increased by a much smaller amount; total public spending on education, of which higher education is only a component, accounted for a mere 2.8% of the PRC’s gross domestic product (GDP), which is significantly below the mandated figure of 4%, and much less than the recommended target of 6% (Xinhuanet 2010). Effectively, what this means is that over the 1998–2003 period, enrollments rose by 230%, while state funding rose by only 140% (Zhao and Sheng 2008; Sun and Barrientos 2009:192; Wu and Gao 2010).¹

This trend towards a widening gap, and the reasons for it, can be summarized as follows:

These changes in financing are responses to a worldwide phenomenon of higher educational costs tending to rise at rates considerably in excess of the corresponding rates of increase of available revenues, especially those revenues that are dependent on taxation. The consequence in most of the world has been a shortage of revenue to accommodate both the increasing costs of instruction and research as well as (and exacerbated by) the increasing revenue needs of rising enrollments. These diverging trajectories—of very rapidly increasing resource needs and more static or even faltering revenues from state budgets—must, in turn, be met by solutions either (or both) on the cost side, or on the revenue side (Johnstone 2009:1).

¹ In effect, government subsidies declined from 14,902 *yuan* per student to 7,586 *yuan* ([*People’s Republic of China Education and Research Network*, 26 July 2006]). It dropped further from 5,553 *yuan* per student in 2004 to 5,376 *yuan* in 2005, representing a decline of 3.18%. Operating expenditure per student declined from 2,297 *yuan* to 2,238 *yuan* in the same time period (MOE, 2 February 2007).

The effects of the resource squeeze are readily observable in much of developing Asia, putting pressure on both public and private higher education institutions (HEIs), and certainly depressing the quality of each. In Viet Nam, for example, student numbers rose thirteen-fold between 1987 and 2009, while the number of lecturers rose just three-fold. Not surprisingly, student/staff ratios have worsened dramatically—from 6.6:1 in 1987 to 28:1 in 2009 (ADB 2010b). Hence, Viet Nam has announced plans to train 20,000 new PhDs by 2020. In the PRC, the government-mandated huge rise in annual intakes of 25%–35% for several years from 1999 achieved much the same effect, with dramatically worsening student/staff ratios, and pressure on library, teaching, and other resources. In each case, effects on lecturer quality are also evident, with greater difficulty in maintaining proportions of staff with doctoral qualifications.

Rising Enrollment Demand, Limited State Capacity: A Path to Privatization

The rising gap between spiralling enrollments and limited state support is widespread (ADB 2009). How is this resource squeeze being manifested in Asia? While funding constraints are often lamented, there is no sign that they will lessen in this era when tax increases are often resisted by voters, and rising demands from areas such as health, housing, aged services, and transport compete for limited state resources. The global financial crisis has made matters worse, albeit somewhat less in developing Asia than in other parts of the world.

Throughout Asia, governments are struggling to manage this financial squeeze in various ways. A recent review of the two Asian giants concluded that funding provided by public sources for higher education in PRC and India is inadequate to meet the demands for both quality and access. India spent 0.8% of GDP on tertiary education in 2005. The PRC spent 0.4% of GDP on higher education in 1999. These figures are well under the 2% expended among developed economies (Altbach 2009). For developing countries, which are already spending substantial sums on higher education, options to reduce expenditures are limited. This raises the question of whether further expansion of tertiary education can be sustained by government funding, or needs to increasingly rely on private funding sources (UNESCO Global Education Digest 2009; UIS 2009:49). Even where generous proportions of public education budgets are expended on higher education, however, as seen in the Malaysian example in Table 3, it does not necessarily mean that all benefit equally. Malaysia's long history of giving preference in higher education to ethnic Malays (*bumiputras*), officially abandoned in 2003 but persistent in practice according to some, has meant that the benefits of publicly funded higher education have been distorted by ethnic politics. In Malaysia's case, as many as 90% of those in private higher education are nonbumiputras, some of whom may have chosen that option, but most of whom may have been pushed into private HEIs by ethnic quotas at public institutions.

The effect has been largely to propel higher education systems and institutions in Asia in particular directions, largely around the phenomenon of privatization, as is evident, *inter alia*, in Tables 4 and 5, which chart the growth of private higher education in the region over the past decade or more. As the gap between demand for higher education and government capacity and willingness to fund such growth has increased, so the private sector has expanded, in many cases, to fill the gap. (The major exception in Southeast Asia is the Philippines, where private provision already accounted for around 75% of enrollment.)

Table 3 Public Expenditure on Tertiary Education in Selected Asian Countries, 1991 and 2005

Country	Percentage of Public Education Budget Expended on Tertiary Sector	
	1991	2005
Indonesia	-	19
Malaysia	20	35
Thailand	15	20
Viet Nam	-	11
People's Republic of China	-	21
India	-	18 ^a

- = data unavailable.

^a Indian data include technical education colleges.

Sources: UNDP 2007:266–267, Agarwal 2010:22, Lan 2010.

Table 4 Proportional Distribution of Students in Public and Private Institutions of Higher Education in Selected Asian Countries, 1997/98

Country	Public (%)	Private (%)
Indonesia	44	56
Malaysia	100	0
Philippines	25	75
Thailand	60	40
Viet Nam	100	0
People's Republic of China	100	0
India	<70 (estimate)	>30 (estimate)

Sources: Gonzalez 1999, Kaul 2006, Zeng and Wang 2007.

Table 4 reveals the huge variation in the proportion of public and private provision of higher education in selected Asian countries in the late 1990s. Although Table 5 uses numbers of HEIs as a measure, rather than enrollments, the extent of change toward private higher education is clearly evident.

This expansion of the private sector, however, has not always been well regulated (partly an index of limited state capacity); hence quality is rather uneven. In the Philippines, politicians have commonly seen it as part of their legacy to found an HEI named after them, however poorly resourced. Attempts to regulate the quality of such institutions have in the past been overturned. In India, it has long been a good business to establish a private college and hope that the government will support its development. State governments have at times failed to effectively regulate the establishment of such institutions (Agarwal 2009:72, 81). Corruption also limits the effectiveness of quality assurance (QA) measures.

Table 5 Numbers and Types of HEIs in Selected Asian Countries, 2007

Country	Public			Private			Total
	Degree	Nondegree	Subtotal	Degree	Nondegree	Subtotal	
Indonesia	-	-	81	-	-	2,431	2,512
Malaysia	18	40	58	22	519	541	599
Philippines	424	1,352	1,776	1,363	2,045	3,408	5,184
Thailand	66	-	66	54	401	455	521
Viet Nam	305	-	305	64	-	64	369
PRC (2009)		-	1,983		-	334	2,317
India (2006) ^a	245	4,097	4,342	80	13,400	13,480	17,822

- = data unavailable, PRC = People's Republic of China.

^a The total for India includes aided, unaided, and deemed universities. Deemed university is a status of autonomy granted to high-performing institutes and departments in various universities in India (UGC 2011).

Sources: ADB 2008: 45, ICHEFAP 2009, PRC MOE 2007, Agarwal 2009:91.

But the balance between public and private also differs substantially across the region. While in the Philippines, private higher education has long dominated the scene, the growth of the private sector in Viet Nam, where private students now comprise some 13% of total enrollments, and in the PRC, where private higher education accounted for 10% of total enrollments by 2006, represented a major departure in socialist systems where higher education had hitherto been entirely public (Zeng and Wang 2007, Welch 2010a). In the other regional giant, 42% of the HEIs were privately owned and run in 2001, and as of 2007, there were 11 fully private universities that received no funding from the government (Altbach 2009:186). Of the total enrollment of 8.4 million in 2001, 3.1 million, or 37% of students, were enrolled in private HEIs (Kaul 2006: 22). Much, if not most, of this rapid growth occurred in private unaided colleges or in self-financing institutions; indeed, by 2006, 43% of HEIs and 30% of student enrollments were in private unaided institutions (Agarwal 2009:91). As government support to private colleges became more difficult, many governments or universities granted recognition or affiliation to unaided colleges. At the same time, many universities authorized new "self-financed" courses, even in government and aided colleges. It is now the case that more than 50% of the higher education in India is probably imparted through private institutions, mostly unaided (Kaul 2006:22).

The push towards privatization needs careful examination. At one level, it is responding to unmet demand and is adding to existing capacity, thereby providing places for more students. At another level, however, as is seen in some of the examples below, many private HEIs charge high fees, which in effect exclude the poor, however bright or able. While some private HEIs are low cost, these are often of rather low quality, and are often associated with a very restricted range of curriculum offerings. The question needs to be asked, then: What are the effects on equity of the expansion of the higher education system in many parts of Asia?

Privatization of Public Sector Higher Education Institutions

The question assumes greater importance, given two trends—one specific to higher education, the other more general. The first is also arguably an artefact of the massification of higher education, and the widening gap between enrollments and state support in the higher education sector (as the above examples starkly illustrate). The swift and substantial expansion of higher education enrollments in much of the Asian region, without concomitant increases in state support, has led not only to the expansion of private HEIs, but also to internal privatization of public sector HEIs. Pushed to make up for declining state revenues, at least in per-student terms, and faced with spiralling demand, public HEIs have experienced worsening student/staff ratios, and associated pressures on staff levels, staff quality and other forms of quality, and various resources. The global financial crisis in 2008–2009 only heightened this pressure on HEIs (Johnstone 2009, IMHE 2010), although it is also important to remind ourselves that much of the Asian region weathered the financial storm better than most other regions, and countries such as PRC, India, Indonesia, and Viet Nam maintained rather impressive growth figures (World Bank 2010). In resource terms, Viet Nam appears something of an outlier here: Whereas student enrollment rose from 974,100 in 2001 to 1,675,700 in 2008 (a rise of 172%), this was more than matched by per-student financial support, which rose from VND1,845,806 to VND5,222,892 over the same period (a rise of 283%). It should be noted, however, that the monetary increase was not inflation adjusted, and moreover was paralleled by dramatic growth in fees and charges collected by public sector HEIs.

Regional public sector HEIs have responded to higher cost pressures by diversifying their income sources in various ways, at times raising the ire of private sector HEIs, which resent the intrusion into areas such as commercial training that such moves can represent. In Indonesia, some major public universities quadrupled the income that they accrued from fees within a matter of years. But status differences count: Prestigious institutions usually have more capacity to leverage their advantageous position to charge higher fees for high-demand courses than do less elite institutions. As a result of such moves, it is now quite possible to pay double the amount to undertake an engineering degree at a top-tier public university in Indonesia than at a major private university (Welch 2006). In Viet Nam, it is now common for public HEIs, or parts of them, to earn 40%–45% of their budgets from the collection of fees of various kinds. Some centers or colleges are somewhat lax in reporting such income, while faculty members are not required to declare additional income as long as departmental work requirements are fulfilled.

A perverse effect of this cost squeeze is that a rising number of universities are facing financial difficulties and substantial levels of debt. In the PRC, a significant number of universities are “in the red” (Wu and Gao 2010), facing major debt problems, while, as seen below, few public universities in Thailand were assessed as on solid ground financially. Lax lending policies, blind expansionism, and a mistaken conviction on the part of lending banks that HEIs were an excellent risk (because their income was assessed as steady and, in the event of problems, it was believed that the state would bail them out) led the PRC’s ministries of education and finance to issue a joint circular in 2004 stressing the need to “prevent financial risks in a practical manner” (Wu and Gao 2010:58–59). Many Chinese HEIs borrowed heavily and now face troubling levels of debt, which they are unable to repay.

A consequence is a second and increasingly common strategy adopted by public HEIs facing substantial resource squeezes: to mount what are commonly termed “extension,” “diploma,” or “executive” courses. These programs, which have much lower entry criteria than regular courses, are said to be in response to demand, although in many cases such courses may not be accepted for civil service employment. Given that it may well be the same staff from the parent institution who teach such “extension” courses, the impact on the quality of teaching and research of mainstream programs within the institution must be queried. Quality is also problematic for these special courses, with much the same qualification being offered but with less demanding academic standards. Among rising numbers of complaints to Malaysia’s National Consumer Complaints Centre in 2009, for example, a significant number focused on courses offered by “subsidiaries” of public universities offering “executive” courses. Most of the courses offered by commercial arms of public universities, particularly the executive diplomas, did not fall within the Malaysian Qualifications Framework; therefore they were not under the regulations of Ministry of Higher Education.

In Thailand, public universities responded to declining state support after the regional currency crisis of the late 1990s by increasing income from other sources by 450%, and there is now intense competition among public sector HEIs to offer “executive” programs, of sometimes dubious quality, for substantial fees. In 2008, for example, the Office for National Education Standards and Quality Assessment estimated that no more than 10 universities in Thailand, all public, were financially solid. The resultant resource squeeze was driving public universities to compete with private institutions for income, particularly by establishing fee-paying “executive” or “special” programs at “learning centers.” Many of them are using shopping centers as their branches (*Bangkok Post* 2008). Some public universities in Thailand report that 60% of their income now derives from such strategies, with individual faculties reporting as much as 75% (Poapangsakorn 2008).

Similar trends are seen in India, where, while fee levels have remained low at central universities (a small proportion of the system), state universities in states such as Haryana, Karnataka, Kerala, Punjab, Rajasthan, and Tamil Nadu charge fees that are quite high. Many such universities are now earning 50% of their annual income from fees, and some HEIs record even higher proportions. The effect is that “...but for a very small section of public institutions mainly under the central government and in a few northern states..., higher education in India is beyond the reach of students from poor background” (Agarwal 2010:35).

Major public universities in Indonesia are also selling places in high-demand programs, for example in engineering, at rates as high as 150 million rupiah (\$17,650). Creating such pathways, termed *jalur khusus* (special path), while supposedly limited to about 10% of the current student intake, may well appeal to wealthy students, but does little to allay quality concerns, while only deepening concerns about equity. Although a stated aim of the creation of such places was to cross-subsidize places for poorer students, it is not always easy to see whether this occurs, and if so, for how many.

In India, too, so-called self-financing courses have mushroomed in public universities and colleges, where fees for high-demand courses (undergraduate engineering, medicine, teacher education, graduate management, and computing) at times match those of private HEIs (from Rs200,000 to Rs800,000 [\$4,520–\$18,080] for some courses and as much as Rs1 million to

Rs4 million [\$22,600–\$90,400] for a place in medicine) and generate substantial surpluses for the institution (Argawal 2010).

The second, wider trend is often associated with the much-debated economic globalization. The effects have been to widen the gap between the haves and the have-nots in many Asian societies (ILO 2008, ADB 2009). Much has been written about the Asian economic miracle and its effects in lifting hundreds of millions out of poverty, most spectacularly in the PRC. At the same time, however, inequalities have been rising:

While Asia's growth record in recent decades has been remarkable, there is growing concern that the benefits have not been equitably shared. Poverty remains high despite the recent decline, and inequality is increasing. Recognizing the potentially negative social, economic, and political consequences of these trends, more and more Asian countries are adopting inclusive growth as the goal of development policy (ADB 2010a:15).

Given this second, widening gap between the haves and the have-nots in many Asian societies, the effects of rising inequality will be felt most starkly by the poor, and possibly also by other disadvantaged persons (such as girls, students in remote areas, and those from ethnic minority groups) for whom higher education may be becoming an evermore distant prospect.

Cost Sharing in Higher Education: Principles and Practice

The growing gap between enrollment growth and the state's capacity or willingness to sustain this growth has led to an inexorable trend towards what is euphemistically termed cost sharing in Asian higher education. While the term may make perfect sense from an economic perspective, it probably makes much less sense to poor rural families in developing countries in the region, where children's access to higher education, already much more limited than their wealthier urban cousins, is now becoming even more restricted as a result of increases in fees, which are rapidly outstripping their family income. What does cost sharing in higher education mean, how does it work, and what are the implications for equity of access and outcomes?

The economic rationale for cost sharing is based on human capital theory (Schultz 1971, Becker 1994)—the notion that human capital, in the form of measureable additional education and training, should be seen in the same way as any other form of capital, for example, investments in new plant or equipment. Given this, it follows that, if education is a form of investment, it should be measured against other potential investments in terms of its potential to contribute to productivity, and assessed in terms of relative costs and benefits.

According to this theory, both governments and individuals are assumed to act rationally when they weigh up the economic costs and benefits of investing in higher education. A government's assessment of the relative costs and benefits of investment in higher education, known as the social rate of return, measures this against other potential investments—in transport or power stations, for example. Individuals act rationally, it is held, if they weigh up the potential benefits of gaining a degree (higher rates of employment, better salaries) against the costs (fees and other charges, plus income foregone as a result of being out of the labor market while studying). Such an assessment, supported by intricate economic formulae, is known as measuring the private rate of return.

In general, the decision to engage in higher education pays off for both governments and individuals. Government investment in higher education is not merely rewarded in terms of higher earnings, and therefore higher tax income, but also brings wider social benefits. Economists have estimated that there are substantial social benefits from additional years of education. Besides economic or monetary returns, nonmonetary private returns may come in the form of improved health conditions of individuals, increased efficiency in making personal choices, expanded ability to learn new technology, and/or better opportunities to pursue higher levels of education. Higher educational levels are also associated with reduced crime rates. Longer participation in education is linked to a reduction in fertility rates of female students, and eventually to lower net population growth, which in turn are associated with reduced poverty (e.g., World Bank 2007:6).

For individuals, the economic payoff is in terms of both lower unemployment rates and higher salaries. For example, in Thailand, the monthly wage of an individual with a degree is more than double that of someone who has completed only the secondary level, and four times that of an individual who has completed only primary schooling. Over a lifetime, the income gap between those with higher education and those without only widens (World Bank 2007:4–5). In addition, just as with the social rate of return, there are also wider benefits for individuals, especially better maternal health, lower family size, and better educated children. In classical human capital theory, other rationales for engaging in higher education because of one's interests, such as learning a language or the violin, are treated as externalities, and are excluded from the mathematical formula by which the rational actor assesses the financial worth of participation in higher education.

As many have pointed out, however, higher education is a particularly expensive form of education to provide, at least if it is to be of reasonable quality: Libraries, laboratories, and other facilities, not to mention well-qualified professors, are not cheap (World Bank 2000, Johnstone 2009). It is perhaps unsurprising, therefore, that, faced with rocketing enrollments and a squeeze on costs, HEIs and governments across the region are attempting to shift costs to students and their families, to greater or lesser degrees.

But if costs are shifting from the state to families and students, what are the implications for equity? Given the trend towards parents and families sharing more of the costs of higher education, both in the region and worldwide, how can the effects on the most vulnerable in society be mitigated? How can the interests of the poor, whose access to higher education is already disproportionately low, be protected or enhanced? Scholarships for poor students are one answer, but private HEIs are able to offer only a few, while the budget pressures on public HEIs also mean that there are never enough.

Student Loans

One response has been to introduce student loans, an exercise that has met with mixed success in the region. PRC, India, Indonesia, Malaysia, Thailand, and Viet Nam, among a number of other Asian countries, have all experimented with student loans in recent years—often with rather disappointing results (Ziderman 2003, 2004). Some of these schemes aim at cost recovery; others target greater access, particularly by the poor. Several countries have multiple schemes.

Student loans are of two basic kinds—income-contingent and mortgage. The former was developed to raise participation in higher education without penalizing the poor (Chapman 2008, ADB 2009). While it allows a discount to wealthy students, who pay fees up front, the basic principles of this form of student loan, versions of which have been exported to a number of transitional and developing economies, levy a fee on each student for each year of study. In principle the fee can be a standard one, or varied by field to take account of the greater costs of educating a student in medicine, for example, and the greater subsequent income earned by medical graduates, relative to say social workers or teachers (Chapman 2008). A key element in income-contingent student loans, however, as the name implies, is that individuals do not begin repaying the loan until after graduating and securing a job wherein the income falls above a designated threshold. When these conditions are met, the individual begins to repay the loan, commonly via slightly higher income tax, until the debt is repaid. While no interest is levied on the loan, the amount is adjusted each year in line with prevailing inflation rates (this, however,

is not an inherent principle of this form of loan). Individuals who fail to secure a job, or whose income does not exceed the threshold, are not liable for loan repayments. After a specified period, perhaps 20 years, the loan may be forgiven.

In mortgage-type loans, which were developed earlier and have been adopted by many countries, the borrower pays off all the principal and interest of the loan over the specified loan period. Interest rates may be tied to commercial bank rates, the consumer price index, or some other measure. A grace period may be invoked before payment begins, during which the interest rate is set at zero, or low, so that graduates may postpone the first payment, pending getting a job. If an individual has difficulty completing repayments during the specified term of the loan, the term may be extended. According to different versions of this scheme, loans may be repaid by monthly, quarterly, or annual installments. Repayments can also be graduated, with lower installments at the beginning of the loan period, and higher payments later (Ziderman 2004).

Each type of loan has its advantages, disadvantages, proponents, and critics. Disadvantages of mortgage-type schemes are that they are often insensitive to future income, while it can be difficult to assess the income of the family to determine eligibility, especially in developing countries, where the informal sector of the economy is larger. The former problem means that repayments may well be high during the early part of the loan, when a graduate's income may still be low. This may lead to defaults, which can then affect individuals' credit ratings more generally. The other problem (of assessing family income levels) is commonly addressed via a means test, which in many developing countries is not always thorough, transparent, or accurate. Graduates who fail to get a job are still liable for the loan, which may also lead to significant default rates, especially during difficult economic times such as are currently being experienced in a number of countries.

While income-contingent loans need no test of income at the beginning, and the problems of default are largely avoided, since repayments do not begin until the borrower gains employment with a specified income threshold, a robust and efficient taxation system is needed so that deductions can be made automatically. Equally, income that is not declared (cash payments, etc.) is not assessable. This can be a particular problem in developing countries, where taxation systems are not always mature or robust, and much income is not waged (Chapman 2008: 98; ADB 2009). There is some evidence that having significant levels of debt due to student loans may increase the probability of not declaring income (ADB 2009). Lastly, if the individual completes his/her studies and then moves abroad, it can be difficult to collect the repayments. Each country needs to develop a scheme that takes account of local conditions. When choosing among the various options, consideration should be given to the costs to government of alternative rates of interest subsidy, the burden of debt facing borrowers, and the likely rate of default if repayment terms are too harsh (Woodhall 1987:33).

Asian Experience with Student Loans

The Asian experience with student loans has been at best mixed. In Thailand, a loan scheme was introduced in the 1990s, but inadequate funding and a much higher than expected level of interest (overall coverage rose to 26% by 2003, and participation from *rajabhats* [teachers colleges] exceeded 50%) ensured that the size of individual loans offered to students fell from year to year. There was minimal planning and weak control from the center, combined with overgenerous loan eligibility and repayment conditions. This led to a substantial and unplanned

growth in loan recipient numbers and unexpected, and unsustainable, funding obligations by the state (Ziderman 2003:65). At one point, allocations to the scheme reached 30 billion baht, which was 14% of the national education budget.

Moreover, while continuing recipients were assured of the same annual amount, contingent only on satisfactory academic results, new recipients had no such assurances; indeed, funding for new recipients fell by almost 50% from 2000 to 2001 (Ziderman 2003:56). The picture was also very different for students in public HEIs, of whom only 13% participated, and students in private HEIs, of whom almost 37% took out loans. Repayments in the early years of the scheme were somewhat chaotic, with more than a quarter not making a single repayment, while another quarter made payments considerably in excess of the due amounts, with some paying off the entire loan. A formal default rate of 30% was recorded, which, however, upon further investigation, comprised largely those who either fell below the income threshold or reported no income (possibly because they were still studying). Eligibility criteria included a poverty element: falling below a designated family income threshold, set at 150,000 baht.

Overly long repayment schedules (compounded by no allowance for inflation) and nominal interest rates, with significant grace periods, effectively constituted a substantial subsidy, estimated at more than 80%, which, however, was rather less for women than men (presumably because of lower female incomes). A subsequent evaluation study recommended better targeting (data showed that only around one-third of poor students were in receipt of loans, while over 90% of poor students dropped out due to financial reasons), more training for officials charged with implementation of the scheme, and a revision of repayment conditions as necessary in order to protect the ongoing viability of the scheme.

Several of the above limitations also apply in Indonesia, where higher education access remains grossly inequitable: Whereas only 3.3% of higher education students stem from the lowest 20% of income groups, 30.9% come from the highest quintile (Nizam 2006:42–43). Once again, a national income-contingent loan scheme that is based on charging moderate fees that are recouped only via the taxation system, and only when the graduate enters the workforce and earns above a certain salary level, could in principle provide more equity in higher education, particularly to more students from poorer classes (Schleicher 2006).

Lessons from international experience underline the critical importance of an efficient banking sector, a robust and comprehensive taxation system, a reliable method to measure *all* income clearly, and effective machinery for collection of repayments in order for such schemes to work (Woodhall 2004, Ziderman 2004); but in Indonesia these cannot be taken for granted. The combination of a weak tax system, increasing fee levels, corruption, and low public-sector salaries might substantially limit the rate of debt recovery in Indonesia. Basing income measures on public sector salaries is highly unreliable in a context where the informal sector of the economy remains substantial. Equally, transparency and the maintenance of a strong, well-financed public sector, each of which research shows also to be fundamental to economic growth and social equity, are also unable to be taken for granted in the current Indonesian context. In such circumstances, more would need to be done in order for such a scheme to work effectively. In Viet Nam, loans are available to poor students who would otherwise fail to participate or complete higher education. By 2009, 1.7 million students had availed themselves of loans, operated by the Bank of Social Policy, with no reported cases of dropout on financial grounds (Lan 2010:17).

The history of student loans in India underlines some similar issues in the context of evolution from early schemes, which were abandoned due to low recovery rates and poor performance, to a national education loan scheme, introduced in 2001 and operated by public banks. From 2007, student loans of up to Rs1 million (\$22,600) for study within India, and up to Rs2 million (\$45,200) for study overseas, have been available. Tax concessions on the interest payable on the loan are available, but are of limited impact. While the loan portfolio has shown an annual growth of up to 69% in recent years, it is still the case that a mere 1% of students currently take advantage of such loans. Notably, of these, only 19% have been women (Agarwal 2009:156). While default rates are low, applicants find processes to be cumbersome and time consuming, and bank staff often seem poorly trained for the task. The facts that banks charge high rates of interest, and pick students with considerable collateral who are seen as low risk but who may not be in need of loans, minimize the reach and equitability of such mortgage-type schemes.

Consideration was being given in India to introducing an income-contingent loan scheme, with possible partial write-off provisions for those who elect to spend some years of service, after graduating, in rural locations. Under such a scheme, loans would be based on economic criteria, rather than on a caste basis. A key issue, however, in terms of both equity and reach of any such scheme lies outside of higher education. As in Indonesia, with a large informal sector and limited capacity to collect tax, income-contingent repayments may be problematic in India. Reliable means testing can also be a contentious issue (Agarwal 2009:159), although proxies such as home ownership or level of fees paid at the applicant's previous institution could be viable.

Loan schemes were introduced into the PRC as early as 1986, but with average amounts that proved too small, and conditions (such as having to repay the loan before graduation) that made them unviable. Predictably, coverage was inadequate. In 1999, two schemes were established: one subsidized by government, the other a more commercial operation. The Government Subsidized Student Loan Scheme, the larger of the two, was targeted at poor full-time students at public universities. Evaluation of need was undertaken by the student's HEI. The maximum amount of Rmb6,000 was generally sufficient for tuition and fees, but not enough for living costs. By the end of 2001, around 30% of applicants had received loans, but this amounted to only 3.8% of students (Shen and Li 2003). By 2004, 830,000 students had availed of loans. Some evidence showed that more non-needy than poor applicants qualified for the scheme, some with lower college entrance scores than needy students (Shen 2010:47).

Significant shortcomings soon became evident. A short (4-year) repayment period imposed impossible debt burdens on students, amounting to at least 24% of annual income. This meant that, although targeted at poor students, effectively the only ones likely to be able to repay the loans over such a short period were the very ones who did not need loans in the first place (Sun and Barrientos 2009:202). Banks bore most of the default risks, which made them less likely to fulfil their quotas, since there were no formal guarantors, nor consideration of the applicant's credit history. The equity criterion was weakened, both because banks tended to discriminate against those whom they judged less likely to repay (poor students), and additionally since poorer local governments (which were responsible for providing the scheme's interest rate subsidy) were less able to support the scheme.

The second scheme, the General Commercial Student Loan Scheme, operated by commercial banks and rural credit cooperatives, was open to students attending private as well as public HEIs, and included parents or guardians as guarantors. Again, this effectively limited the reach

of the scheme to students from at least middle class families, rather than needy students (Ziderman 2004). Subsequent versions allowed longer terms (either 6 or 10 years), with an interest rate of 6.12% imposed only after graduation, and grace periods of 0–24 months (Shen 2010:49). By 2002, the first institution (Xian Communications University) was suspended from being able to apply for loans because of a default rate of 50%. Other institutions followed, and by 2003/04, average default rates were almost 20%. In 2004, the PRC government and universities established a Risk Compensation Fund, and in 2006, the Ministry of Education formalized financial arrangements among the government, universities, and banks (Sun and Barrientos 2009:202).

Since cash is still the dominant form of transaction in the PRC, tracking real levels of income is correspondingly difficult. Second jobs, some of which are also compensated in cash, compound the problem, while some employers collude with employees to hide actual income, thereby minimizing or avoiding tax altogether. Surveys in major cities in the PRC have shown that significant proportions of respondents do not know what an income tax is. Rising graduate unemployment rates in the PRC—with estimates that some 25% of the most recent crop of graduates were still seeking work (*Bloomberg Business Week* 2010, *China Daily* 2010b)—constitute a further limit on the viability of current loan schemes, making repayments burdensome, if not impossible, and leading to higher default rates.

Lessons from the PRC highlight, once again, that certain limitations external to higher education can affect the viability and integrity of loan schemes. Experience, especially from developing countries, underlines the difficulty in accurately determining individual income in the long term in the absence of effective mechanisms for income reporting and tax conditions (Shen 2010:46–47).

Evident in this sketch of the diverse student loan schemes in Asia are a range of problems. This publication includes recommendations that can help alleviate some of the problems and improve the reach and efficiency of loan schemes.

The Asian Context

The previous chapter shows that context matters: Financial instruments and student loan schemes are crucially affected by the situation into which they are introduced. The diverse and multifaceted Asian region is home to both the giants of PRC and India as well as the largest majority Muslim nation in the world (Indonesia, population around 230 million). Both PRC and Viet Nam may be characterized as socialist countries moving towards market economies. India, Indonesia, Malaysia, and Thailand may all be categorized as multiparty democracies, although Malaysia is only now emerging from long-standing dominance by a single party, while Thailand has recently experienced political instability, and Indonesia is experiencing a vibrant democratic phase of rebuilding civil society. India's democracy is slowly adapting to greater liberalism after a long era of state control over most aspects of the economy, including education.

Given this diversity, it is important to remind ourselves of basic Asia facts that, less than a decade ago, were summarized as follows (ADB 2003):

- 900 million Asians still lived on less than \$1 per day (75% of the global total);
- nearly 40% of the population was under the age of 18;
- 75% of the world's illiterates, two-thirds of whom were poor women, lived in Asia;
- millions of children who completed primary school could neither read nor write, and millions more dropped out each year due to poverty;
- half of all children in the region were not enrolled in secondary school, most of them poor;
- almost 40% of children aged under 5 were malnourished, and hence unlikely to achieve their full intellectual potential; and
- some governments expended more on their military than on their children.

While some of these measures have improved appreciably, the global financial crisis in 2008–2009 buffeted regional economies again, although seemingly not as severely as during the currency crisis a decade earlier (World Bank 2010). While the scenario sketched above may be seen as broadly evident across the Asian region, there are significant differences in terms of levels of development, poverty, and political ideology among the countries in the region that determine how far, and in what ways, they are affected by this trend.

All four Southeast Asian countries in Table 6 are still considered developing countries, although Indonesia, Malaysia, and Thailand can be considered middle-income countries. PRC and India are also still classified as developing countries. While all six nations have recovered significantly from the effects of the regional financial crisis of the late 1990s, the gap between rich and poor continues to widen. Overall, this does not mean that the poor are becoming poorer, but rather that the rich are making greater gains (ADB 2007; 2010a:57).

Table 6 Human Development Indicators in Selected Asian Countries, 1990 and 2002

Country	HDI 1990	HDI 2002	HDI Rank 2002	Life Expectancy at Birth 2002	Education Index 2002	GDP per Capita (PPP\$) 2002	PEE (% of GDP) 1990	PEE (% of GDP) 2002
Indonesia	0.623	0.692	111	78.0	0.80	3,230	1.0	1.3
Malaysia	0.720	0.793	59	73.0	0.83	9,120	5.2	7.9
Thailand	0.707	0.768	76	69.1	0.86	7,010	3.5	5.0
Viet Nam	0.610	0.691	112	69.0	0.82	2,300	-	-
PRC	0.627	0.745	94	71.0	0.83	4,580	2.3	-
India	0.514	0.595	127	63.9	0.53	2,670	3.9	4.1

– = data unavailable, GDP = gross domestic product, HDI = Human Development Index, PEE = public expenditure on education, PPP = purchasing power parity, PRC = People's Republic of China.

Sources: UNDP 2004:140–174; 2005:20.

This important trend across the region is of critical importance for equity in higher education access and outcomes. For each of the two regional giants, for example, an examination of spending patterns of the lowest 20% and top 20% of the population from 1993 to 2004 is revealing: For India, growth for the former group, expressed in constant 1993 dollars, was 0.85%, but it was 2.3% for the latter, while in the PRC the equivalent figures were 3.4% and 7.1%. But expressed in absolute terms, the spending gaps were significantly greater in both countries (ADB 2007:9). Of the two, the PRC has been significantly more successful in lowering the rates of those in poverty (ADB 2010a:58), but its Gini coefficient, a conventional measure of inequalities in society, which had already reached 0.4 a decade ago, has since risen even further, now recording a worrying 0.47. (The Gini coefficient varies between 0, reflecting complete equality, and 1, which indicates complete inequality.)

More specifically, Southeast Asia embraces around 540 million people, with a combined GDP of \$610 billion (or \$1.9 billion in purchasing power parity [PPP] terms and with very wide disparities—both across the region and within countries. Per capita GDP ranged from \$9,120 (Malaysia) to \$2,300 (Viet Nam) in 2005 (UNDP 2005). Females comprise 49% of the total, while over 56% of the population still inhabits rural areas. Almost half of the substantial numbers employed in agriculture are women; within Southeast Asia, the Human Development Index (HDI) ranks ranged from 59 (Malaysia) to 112 (Viet Nam) in 2002, while for India it was 127 (UNDP 2005). In Southeast Asia, poverty rates ranged from 16.6% in Indonesia (for 2004) to 9% for Viet Nam, while the proportion of the population whose income in 2004 fell below a dollar a day was 9.9% for the PRC and 34.3% for India (Bashir 2007, Chen and Ravallion 2007).

Both PRC and India have populations of more than 1.2 billion, with significant variations according to wealth, caste, and ethnicity, as well as gender. Per capita GDPs of \$4,580 for PRC and \$2,670 for India place them within the developing country range, but by 2007, HDI ranks were very different: PRC at 81 and India at 127. For both, however, there are wide disparities within each population, as seen in Table 6. Poverty rates, however, starkly differentiate the two, with PRC's at 11.7% and India's at 31.3% (UNDP 2007:238–239).

Implications of Demography

As seen in Table 7, demographic factors affect demand for higher education across the Asian region in very different ways. The PRC's one-child policy, although now somewhat more liberally interpreted and not extended to minorities or rural dwellers, will lead to a rapidly aging population within the next two decades. India's higher rate of population growth is likely to mean that its population will outstrip the PRC's, imposing even greater pressure on the limited Indian higher education facilities available, and leading to further privatization of the system.

Table 7 Demographic Pressures on Higher Education by Country, 1975–2000

Country	Total Population (million) 1975	Total Population (million) 2000	Annual Population Growth Rate (%) 1975–2000	Population under 15 (as % of total) 2000
Indonesia	134.6	212.1	1.8	30.8
Malaysia	12.3	22.2	2.4	34.1
Thailand	41.1	62.8	1.7	26.7
Viet Nam	48.0	78.1	2.0	33.4
PRC	927.8	1,275.1	1.3	24.8
India	620.7	1,008.9	1.9	26.9

PRC = People's Republic of China.
Source: UNDP 2002:164.

The fact that these six countries have a population of youth aged under 15 comprising from one-quarter of the total to in excess of one-third has substantial implications for financing higher education demand adequately, especially when paralleled by rising aspirations and higher rates of secondary completion.

University Contribution to Innovation

These countries, like many others in the Asian region, subscribe to the knowledge economy thesis, which accords higher education a central role. But if they are to invest substantially in higher education with the aim of boosting research and development (R&D), raising economic growth rates, and promoting their international competitiveness, their governments will need to be convinced that investments in higher education promote innovation (Welch 2010c). What does the evidence show about the relationship between existing levels of investment in Asian higher education and levels of innovation?

Tables 8–10 clarify the role of higher education in national innovation and R&D, revealing that, as yet, higher education in Southeast Asia contributes on average more than half of the developed country average to R&D performance (and in the PRC's case, a little more than one-third, and in India's case one-sixth—Table 8), and that much less is devoted to R&D as a proportion of GDP, relative to the developed nations' average (Table 9). This could well be, of course, due to the fact that the knowledge economy is still much less dense in developing Asia, as the number of

researchers per million of population indicates, and that as yet, the quality of scientific research institutions (with the arguable exception of some leading institutions in Malaysia, and a few in PRC and India) do not yet match those of developed nations (OECD 2008; Pendlebury 2010; Welch 2010b, 2010c; Yang and Welch 2011) (Table 10).

Table 8 Contribution to R&D Performance by Sector

Country	Business	Government	Higher Education
Southeast Asia	51.3	22.1	15.7
Indonesia	14.3	81.1	4.6
Malaysia	65.3	20.3	14.4
Thailand	43.9	22.5	31.0
PRC	62.4	27.1	10.5
India	29.6	66.0	4.4
Developed Country Average	62.9	13.3	27.0

PRC = People's Republic of China.

Sources: ADB 2008:122; India estimates from UNESCO 2010b:488.

Table 9 R&D Expenditure Levels and as Percentage of GDP, 2002

Country	R&D Spending, 2002		R&D as percent of GDP ^a	
	\$ Billion (PPP)	Percentage of World	1992	2002
Southeast Asia	3.3	0.4	0.1	0.2
Indonesia	0.3	0.0	0.1	0.1
Malaysia	1.5	0.2	0.4	0.7
Thailand	1.1	0.1	0.2	0.2
PRC	72.0	8.7	0.8	1.2
India	12.9	-	0.7	0.8
Developed Country Average	645.8	77.8	2.3	2.3

- = data unavailable, GDP = gross domestic product, PPP = purchasing power parity,

PRC = People's Republic of China, R&D = research and development.

^a Regional data are sum of R&D divided by sum of PPP GDP.

Sources: World Bank 2006:147, UNESCO 2010b.

Table 10 shows that the knowledge economy is considerably denser among developed nations than in Asia, as measured by the number of researchers per million and average years of schooling. Among the Southeast Asian countries in Table 10, Malaysia is the only exception, at least on measures of quality of research institutions and extent of collaboration between universities and industry.

Table 10 National Innovation Indexes by Country, Region, and Level of Development

Country	Average Years of Schooling (2000)	Researchers per Million (2003)	Quality of Scientific Research Institutions	University-Industry Research Collaboration	Patents Granted by US Patent Office (2000–2004)
Southeast Asia	6.6	210	4.1	3.6	140
Indonesia	4.7	207	3.9	3.4	15
Malaysia	7.9	299	5.0	4.7	64
Thailand	6.1	287	4.0	3.6	43
PRC	5.7	663	3.8	3.9	368
India	-	119	5.1	3.3	-
Developed Country Average	9.5	3,616	5.1	4.4	-

- = data unavailable, PRC = People's Republic of China, US = United States.

Sources: Nationmaster.com; World Economic Forum 2005:504–506; World Bank 2006:155, 170.

There is also a perceptible gap in absolute spending, proportion of world R&D expenditures, and R&D as a proportion of GDP between Asian nations and the developed world average (Table 9). Both PRC and India plan to raise gross domestic expenditure on R&D to 2% over the next decade, and the PRC's rate had already reached 1.54% by 2008 (Thomson Reuters 2009a, 2009b). Also, the data in Table 9 do not indicate how efficiently and transparently the funds are expended. The proportion spent on basic research is also absent from the data, and there is some evidence that the proportion is slipping in the PRC (Thomson Reuters 2009a).

Counting the Costs of Difference

Poverty

The Asian economic miracle has arguably depended too narrowly on export-led growth, high GDP rates, and a strong US dollar. In the headlong drive for growth, too many citizens have been left behind. Even in Viet Nam, and to a greater extent in the PRC, where hundreds of millions have been lifted from poverty, the poor have been falling further behind. Overall, as was argued earlier, this does not mean that the poor are becoming poorer, but rather that the rich are making greater gains; it is the rich getting rich faster than the poor (ADB 2007:6; 2010a:63). A better way of measuring growth might be to implement more inclusive strategies, and to regularly monitor whether the poorest members of an economy are benefitting from growth (Bloomberg News Service 2007).

By such measures, Asia does not perform all that well, with significant poverty rates evident across the region and relatively high Gini coefficients common (Table 11). Substantial poverty rates constrain the development of a more inclusive public higher education sector in Southeast Asia. Actual poverty rates vary from a relatively low 9% in Viet Nam to 16.6% for Indonesia (Bashir 2007:8).

Table 11 Gini Coefficients of Selected Asian Countries Compared with the EU-15

Country/Region	Gini Coefficient	Most Recent Data	Trend and Years
Indonesia	34.3	2002	34.4–34.3 (1993–2002)
Malaysia	40.3	1997	41.2–40.3 (1993–2004)
Thailand	42.0	2002	46.2–42.0 (1992–2002)
Viet Nam	37.1	2004	34.9–37.1 (1993–2004)
PRC	47.5	2007	40.7–47.2 (1993–2004)
India	36.2	2004	32.9–36.2 (1993–2004)
EU-15 ^a	24.7–38.5	– ^b	– ^b

EU = European Union, PRC = People's Republic of China.

^a EU-15 = Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

^b EU data cannot be given for a specific year, since the category includes a number of countries for which data stem from different years.

Sources: UNDP 2005:26; ADB 2007, 2010a.

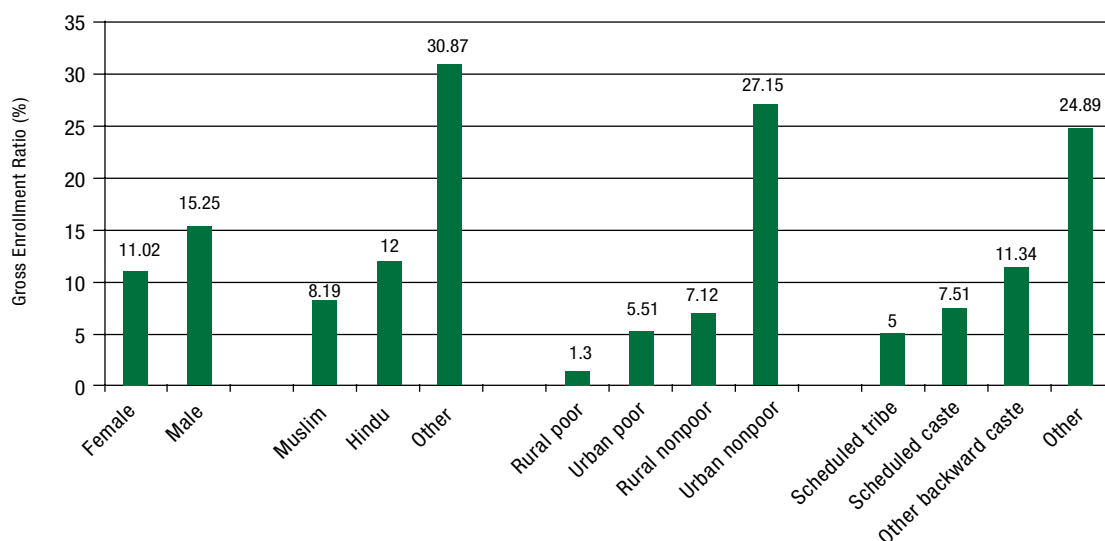
And there is no doubt that poverty makes a difference: Viet Nam data show that participation in higher education by the wealthiest population quintile, at over 40%, is almost four times higher than that of the poorest in the country (World Bank 2008:23). Interestingly, while both the two regional giants (PRC and India) experienced worsening Gini coefficients, as did Viet Nam (another system transitioning to a market economy), Malaysia and Thailand improved somewhat, while in Indonesia there was effectively no change.

Viet Nam explicitly recognizes poverty as a barrier to participation in higher education and has well-developed compensatory strategies. For example, exemption from tuition fees is granted to students assessed as living in starvation conditions (defined as a monthly income equivalent to less than 13 kilograms of rice) and to those who are orphaned and homeless, while partial remission is available to students in somewhat less adverse situations. Data are not available, however, to assess how likely students in such categories are to take up such offers of support. Overall, a decline is evident in the proportion of students who gain fee remissions, especially from 2006. For both university and college students, rates fell from 22.5% to 13% from 2006 to 2008 (Lan 2010:15).

In the face of substantial poverty levels and high Gini coefficients (albeit, with the exception of the PRC, not as high as some in Latin America), countries have adopted a variety of strategies to promote equity in higher education. The most persistent and programmatic has been India: Since independence in 1947, positive discrimination, also called reservation, has been practiced throughout the Indian public employment system, including in higher education. In effect, *dalits* (“untouchables”), other backward castes, and specified tribal groups continue to have reserved proportions of places in colleges and universities, including most recently in appointments to the Indian Institutes of Technology (IITs), where the policy’s implementation had only been partial. A 2008 government decision mandating that the IITs, seen as bastions of meritocracy, must hire professors according to the strictures of the positive discrimination laws has renewed debate about the policy in general (Altbach 2009:196). The policy has also been mandated to some extent in private sector HEIs.

HEIs must hire, and enroll, a fixed percentage of these groups—almost half of the total. Debate is still under way about both the justification and the effectiveness of the policy. Some claim that positive discrimination has been largely ineffective in raising the status of those groups it is intended to help, while others claim it is a mistaken policy in a meritocratic society (Altbach 2009). While the debate continues, several decades of implementation have not eradicated disparities of enrollment, as Figure 1 and Table 12 indicate.

Perhaps the clearest example of positive discrimination in higher education in Southeast Asia is that of Malaysia, where preferential policies for ethnic Malays (*bumiputras*) were originally introduced to compensate for what was argued to be their economic and social marginalization. The rationale then (late 1960s) was that Malays lacked opportunities for educating themselves, opportunities to earn enough to go into business, and opportunities to train in certain vocations. Decades later, one of its key architects and original proponents admitted to the failure of such compensatory schemes (Mahathir 2002).

Figure 1 Enrollment Disparities in Indian Higher Education

Source: Agarwal 2010:14.

Table 12 Tertiary Enrollments by Program in India, 2004

Program	Total	Girls (%)	Scheduled Caste (%)	Scheduled Tribe (%)
PhD/ DSc / DPhil	55,352	41.2	5.8	2.4
MA	469,291	46.6	16.2	4.9
MSc	198,719	45.7	10.4	2.8
MCom	122,257	34.0	9.2	3.0
Postgraduate – Subtotal	845,619	44.4	13.6	4.1
BA/BA Hons.	3,772,216	43.9	14.9	5.2
BSc/BSc (Hons.)	1,490,785	38.9	11.3	3.3
BCom/ BCom (Hons.)	1,465,028	36.6	8.5	3.3
BE / BArch	696,609	23.7	8.5	3.1
Undergraduate – Subtotal	7,424,638	39.6	12.3	4.3
Medicine, Dentistry, Nursing, Pharmacy, Ayurvedic, ^a Unani, ^b and Homeopathy	256,748	34.7	11.5	3.7
BEEd /BT	155,192	43.8	12.4	5.8
Others ^c	3,095,099	37.9	6.0	2.1
Total Enrollment	11,777,296	39.4	10.7	3.7

^a Ayurvedic medicine (also called ayurveda). “Ayurveda” is made up of two words: ayuh and veda. Ayuh means life and veda means knowledge or science. Thus “ayurveda” in totality means “Science of life.” It incorporates all aspects of life whether physical, psychological, spiritual, or social (GOI 2011).

^b The Unani System of Medicine has a long and impressive record in India. It was introduced in India by the Arabs and Persians sometime around the eleventh century. Today, India is one of the leading countries in so far as the practice of unani medicine is concerned. It has the largest number of unani educational, research, and health care institutions (GOI 2011).

^c Includes data on open and distance education in respect of 11 (of 30) states.

Source: Agarwal 2010:14.

Rural vs. Urban

A key component of overall inequalities in many parts of developing Asia comprises rural–urban differentials. Indeed, rural–urban inequalities are often widening, including in education, with ominous implications for achieving stated goals of inclusive growth. Once again, as with the poverty dimension, this is not to say that rural rates of participation in higher education are not increasing—rather that urban rates are rising faster.

The problem is being exacerbated by the rising costs of higher education, which are outstripping growth in rural incomes. Microdata on per-capita household expenditures in Viet Nam reveal that growing differentials in rural–urban and regional expenditures account for 108.4% of the increase in the Gini coefficient between 1993 and 2002. In other words, had other factors not worked to dampen increases in inequality, the Gini coefficient would have registered an even larger increase than it did (ADB 2007:11). And, as the costs of education to households rise, it is now accounting for significantly more of the inequalities in expenditure in Viet Nam than a decade earlier (ADB 2010a). Moreover, in Viet Nam as in several regional systems, HEIs are concentrated in urban areas. Of the 150 universities in the country, more than 100 congregate in the five major cities (Ha Noi, Ho Chi Minh, Da Nang, Can Tho, and Hai Phong). The result is that participation in higher education is almost four times higher among the richest quintile, mostly urban, than among the poorest, mostly rural (World Bank 2008:23).

In Indonesia, too, HEIs, particularly those of quality, are concentrated on the most populous island of Java, while in Thailand most of the major specialist and comprehensive HEIs are concentrated in and around Bangkok.

Recognizing the impact of such disparities, Viet Nam has made determined efforts to expand rural access and participation, increasing the number of HEIs in mountainous and more remote regions, which often contain high proportions of the poor and ethnic minorities, who remain underrepresented in education (World Bank 2009). As part of its commitment to more inclusive strategies, students whose parents reside in more remote high mountainous regions, for example, are exempted from paying fees. Such strategies form part of an increased commitment to higher education overall that showed higher education funding rise from 9.1% of the education budget in 2001 to 10.8% in 2008 (Lan 2010).

For both PRC and India, at least three factors have contributed to differential patterns of growth: uneven growth across provinces or states, higher growth in secondary and tertiary sectors of the economy (leading to faster growth in urban than rural incomes), and top household income growth outstripping that of middle or lower income groups (Luo and Zhu 2009:2; Sun and Barrientos 2009:192, 199; ADB 2010a:63). Per-student expenditure on junior middle schools is 18 times higher in Beijing and Shanghai than in the poorest provinces (UNESCO 2010a, Xinhuanet 2010). What this leads to is a process whereby, in the PRC, the more prestigious the institution, the less likely it is that rural students will gain access. As a result, for example, the proportion of rural students at Peking and Tsinghua universities, the PRC's two leading HEIs, has now slipped to less than one in five, despite having been much larger in the past (Wu and Zheng 2008; Sun and Barrientos 2009:202). Indeed, it is perhaps for this reason that in October 2011, Tsinghua University announced a significant policy change whereby each high school in 592 designated poverty-stricken counties will be able to nominate one student for potential

entry to Tsinghua, which in turn will accept a slightly lower entry score from such students. Such responses underline the greater sacrifice that higher education represents for rural families, and their difficulties in availing themselves of student loan schemes.

The rising costs of higher education are exacerbating rural–urban differences in the PRC. While by 2001, the annual cost to a family of their child attending higher education was higher than the average urban income, it was four times that of a rural resident. This was even more the case at private HEIs, where by 2006, fee levels reached over Rmb12,000 (double those at the most prestigious public universities). The fact that the proportion contributed by fees to institutional budgets of public HEIs doubled over 1996–2003 had a significantly greater impact on rural families, whose earnings gap relative to urban incomes had widened appreciably. In 2010, rural residents earned an average of less than one-third of the income of urban residents (*China Daily* 2010a).

For all these reasons, it is now the case that only 1 in 6 urban students is able to gain a place in higher education, compared with 1 in 20 rural students. While rural dwellers form about 80% of the PRC population, they represent only 15.6% of university students. By contrast, urban dwellers, who form about 20% of the workforce, make up 84.4% of university students (Sun and Barrientos 2009). The ongoing and somewhat flexible practice of making exceptions for children of parents working in higher education (*gaoxiao jiaozhigong zidi*), “flexible quota” students (*jidong zhibiao*), “recommended students” (*baosongsheng*), and students admitted on the basis of their particular speciality (*tezhaosheng*) actively discriminates against rural candidates, who rarely fall into such categories.

Gender Discrimination

The picture on gender equity in higher education is very diverse across the Asian region. While data covering 1970–2007 show that Southeast Asia and East Asia and the Pacific had achieved gender parity (a score of 1.0) in higher education by 2007, South and West Asia revealed a male GER one-third higher than for females (UIS 2009:16). Data on income, combined GER, and adult literacy by gender for the selected countries are presented in Table 13.

Table 13 Gender, Education, Literacy, and Income in Selected Asian Countries

Country	HDI	Female: Male Income Ratio	Combined Female Gross Enrollment Ratio 2006	Combined Male Gross Enrollment Ratio 2006	Female Adult Literacy (15 and above) 1999–2006	Male Adult Literacy (15 and above) 1999–2006
Malaysia	63	0.44	69.8	73.1	89.1	93.9
Indonesia	109	0.46	69.5	66.8	87.4	94.7
Thailand	81	0.62	76.6	79.6	92.3	95.7
Viet Nam	114	0.71	63.9	60.7	86.9	93.9
PRC	94	0.65	68.9	58.5	89.5	96.3
India	132	0.32	64.3	57.5	53.4	76.4

HDI = Human Development Index, PRC = People’s Republic of China.
Source: Plan International 2009 (compiled from Tables 4 and 5).

Table 13 shows that India ranks weakest on all indexes, including female-to-male income ratio, literacy, and combined GER. Most recent ADB country data show that, while PRC, Malaysia, and Thailand had achieved gender parity in tertiary education enrollment by 2006, Viet Nam, Indonesia, and India fell some way short (ADB 2010a:124). The PRC presents a complex picture—while its contribution to the reduction of global illiteracy has been significant, it still has 71 million illiterates in the age group of 15 and above, of whom more than two-thirds are women (Xinhuanet 2010).

Table 14 presents GERs in the six selected countries for males and females over the past decade or so; it shows that Southeast Asia and the PRC exhibit greater gender equality in higher education, as well as higher GERs for females. India has more work to do to, both to lift enrollment ratios in general, and for females in particular.

Table 14 Gross Male and Female Enrollment Ratios in Higher Education in Selected Asian Countries, 1999 and 2007

Country	GER, 1999 (M)	GER, 1999 (F)	GER, 2007 (M)	GER, 2007 (F)
Malaysia	23	23	27	33
Indonesia	49	41	62	54
Thailand	31	36	44	53
Viet Nam	12	9	-	-
PRC	-	-	23	23
India	11	8	14	10

- = data unavailable, F = female, GER = gross enrollment ratio, M = male, PRC = People's Republic of China.
Source: UIS 2009:130–134.

Corruption in Higher Education

Southeast Asia is not free of corruption; nor is PRC or India (World Bank 2006:259–290; ADB 2010a:213), and the phenomenon also permeates higher education. Corruption leads to lower quality, less provision, higher costs, and reduced satisfaction with educational provision. Most university staff throughout the region perform diligently under challenging conditions, including poor remuneration rates (especially in public HEIs) and very limited resources. Others, however, perform less creditably, and some sources have even posed the notion of an East Asian model of academic corruption (World Bank 2006). India, too, is by no means free of academic corruption, as illustrated below.

Transparency International's Corruption Perceptions Index (CPI) points to a strong correlation between corruption and poverty, with a concentration of impoverished states at the bottom of the ranking. The CPI is a composite index that draws on multiple expert opinion surveys that poll perceptions of public sector corruption in 163 countries around the world—the greatest scope of any such index to date. Scoring countries on a scale from 0 to 10, 0 indicates high levels of perceived corruption, while 10 indicates low levels of perceived corruption (Transparency International 2006).

A strong correlation between corruption and poverty, evident in the results of the CPI 2009, afflicts Southeast Asian countries significantly (Table 15). Public sector wages in all but Malaysia and Thailand are poor, and moonlighting is common (Welch 2006, 2007, 2011b). Indeed, the correlation between poverty and corruption is underscored by the pattern evident in Table 15. While none of the six countries scored in the top 50 worldwide, and only one scored above 4 on the CPI scale, the country ratings correlate with general levels of wealth and development. Malaysia, the wealthiest country, had the highest rating, followed by the other medium-development state (Thailand), while both Indonesia and Viet Nam, the two poorest, scored low at 2.8 and 2.7, respectively. For PRC and India, where public sector wages are also relatively low but development is strong, the scores were 3.5 and 3.3, respectively.

Table 15 Corruption Perceptions Index in Selected Asian Countries, 2009/10

Country	Score	Ranking
Malaysia	4.4	56
Indonesia	2.8	110
Thailand	3.5	78
Viet Nam	2.7	117
People's Republic of China	3.5	78
India	3.3	87

Source: Transparency International 2009a:253–227; 2010.

Corruption in the private sector (including in private higher education, as seen below) remains problematic and has become the focus of new attention in the socialist states of PRC and Viet Nam, where formerly attention was devoted largely to public sector officials (Welch 2007, 2010a). The PRC has recently introduced new legislation to deal with private sector corruption, created a publicly searchable database of bribery cases, blacklisted guilty companies for 2 years, and translated and published Transparency International's *Business Principles for Countering Bribery* into Chinese with the help of Tsinghua University's Anti-Corruption and Governance Research Centre (Transparency International 2009a:255).

Wescott's (2003) analysis of corruption in Southeast Asia provides some examples of the general effects of pervasive corruption. He cites, for example, Thailand's National Counter Corruption Commission's estimate that up to 30% of government procurement budgets may be lost due to corrupt practices. Data from Viet Nam show that nearly one-third of its public investment expenditure in 1998—equivalent to 5% of GDP—was lost to fraud and corruption. As elsewhere in Southeast Asia, the situation is not helped by low public sector salaries and by widespread moonlighting, as previously mentioned.

The effects on higher education are evident in the following examples: The first occurred in Indonesia, where a private HEI's faculty of engineering, faced with an upcoming evaluation of its facilities by the national regulatory authority, and well aware that its level of engineering infrastructure was inadequate, adopted a strategy designed to circumvent the problem. Unwilling to accept the consequences of a poor rating, the faculty of engineering approached

local engineering firms about borrowing numerous items of major equipment. The day after the successful inspection, which ultimately yielded a satisfactory B rating, all items of equipment were returned to the local firms, leaving students just as bereft of much-needed equipment as before. Such stories are not uncommon. Many private schools provide engineering education without sufficient equipment to support the curriculum and end up compromising the quality of their graduates (Buchori and Malik 2004). The need for a more effective regulatory regime is now widely acknowledged, against a background where the widespread culture of corruption has the capacity to undermine the effectiveness of QA procedures in higher education (Transparency International 2006, Welch 2006).

In Viet Nam, too, serious problems surfaced in 2001 at certain private HEIs, which are ineligible for public funds. The first issue was overenrollment, in a context where the Ministry of Education and Training (MOET) sets legally defined enrollment limits for such institutions. Dong Do University was found by MOET to have overenrolled—to the tune of 2.8 times its MOET quota: For the academic year 2001/02 alone, Dong Do had enrolled 4,205 students rather than its allotted 1,500. Curiously, however, the problem had been known for some years: The Dong Do University scandal had first surfaced in October 1998, when MOET officials found that the number of students admitted to the university far surpassed the permitted figure (*Viet Nam News* 2002a).

The second issue was one of entry standards. It was alleged in 2001 that the leaders of Dong Do had been routinely accepting bribes by students or their families in order to secure entry to the institution. This, too, was strictly illegal, but allegedly occurred in an effort to boost enrollment numbers and income levels (Welch 2011b:144; *Chronicle of Higher Education* 2006).

Once again, the official MOET investigation did indeed uncover substantial breaches: Papers were given marks of 8 or 9 out of 10, at times by unqualified markers, when their real grade was assessed to be as low as 0.5. Several dozen students were accepted for enrollment without even being on the list of students for selection. Another 380 had no upper secondary education graduation certificates at all. Some 80% of students accepted for enrollment at Dong Do were found to have scores lower than those reported by the University Council, while some had had their marks increased by rescoring. Beyond these serious breaches of procedure, the investigating team also found that the university had failed to build any facilities, offices, or classrooms in 7 years of operation, or to invest in enhancing the quality of academic staff. Facilities were assessed as not meeting the standards of a university (Welch 2007; 2011b:143–144).

As a result of this investigation, Dong Do's 2002 enrollments were deemed cancelled, and the university was given strict instructions to end such illegal practices. The Ha Noi police were called in to conduct an investigation, and if necessary to prosecute the rector and other senior staff responsible. The deputy chair of Dong Do's board of management was subpoenaed for his involvement in one of the biggest scandals to date in the education sector (*Viet Nam News* 2002a, 2002c). The former director of its training department was also charged.

At times, too, gamekeeper has turned poacher. In a separate case in 2002, two senior MOET officials, both at the deputy minister level, were reprimanded or sacked after their involvement in the Asian International University (AIU) scam was revealed. Both officials were linked with the bogus university, which set up shop in Viet Nam and enrolled thousands, awarding worthless paper degrees (*Viet Nam News* 2002b). After being in operation for 5 years, AIU, which was

established in 1995 in cooperation with the Hanoi University of Foreign Languages, ceased pretending to be a university, leaving more than 2,000 students stranded, having lost hundreds of thousands of dollars. In another incident, the so-called American Capital University offered an MBA program, together with a partner, the variously titled Singapore (later Senior) Management Training Centre. Both institutions are now defunct, again leaving numbers of students thousands of dollars out of pocket (Ashwill 2006).

Such practices are not unique to Indonesia and Viet Nam. In India, corruption takes somewhat different forms, such as charging high fees for admission; a practice called “capitation fees” (substantial fees charged at the time of matriculation); tuition fees higher than those allowed by regulations; and corrupt practices in admissions, hiring, and the award of degrees (Altbach 2009:198).

These practices are widespread in India in the private higher education sector, where many private HEIs allow fraudulent entry into their programs upon the payment of exorbitant fees, which may be as high as Rs800,000 for an engineering degree, or Rs1 million–4 million for a place in a medical program (Agarwal 2009, 2010). The National Knowledge Commission, established in 2005, recently reported pessimistically about prospects for reform of entry procedures into medical degree programs. The Commission noted that the common entrance test conducted by associations of such colleges to determine merit has not changed the situation at all, and disclosed a number of ways in which the merit list is manipulated to ensure that the candidates who have made payments are “appropriately” graded (*India Together* 2008).

A recent survey by Tamil Nadu State revealed at least 10% of colleges violating stipulated fee structures (Agarwal 2010), while the practices of admitting students well in advance of the stipulated entry date, insisting on prepayment of tuition fees in full, and retaining original educational certificates to prevent them from entering another institution are also common (Transparency International 2009b:260). Despite court interventions, such practices continue by institutions that exploit loopholes in relevant regulations. Providers of transnational higher education are also not immune to devious practices.

Corruption also weakens the effectiveness with which research funds are expended (see Table 9). Examples of academic corruption are often brought to light, despite regular official statements that fraud and corruption will not be tolerated. Undermining the impressive annual growth of PRC research funding of 19% in recent years are regular reports of misuse of research funds (*China Daily* 2010c, *Economist* 2010).

Particularly in Indonesia and Viet Nam, but also in PRC and India, corruption is associated with low salaries, which encourage some staff to seek additional income illegitimately. In a recent international survey of academic salaries, PRC and India were at the bottom of a group of 15 countries (Altbach et al. 2010). At an average of \$1,182 for PRC and \$1,547 for India, salaries were about 25% of US averages and about 30%–35% of most western European salaries, when compared on the basis of 2008 PPP (Altbach 2009:193).

Brain Drain

Brain drain, or the loss of highly skilled labor, is a long-standing concern for much of developing Asia. The ongoing loss of high-level labor is not merely the loss of a country’s most skilled

and expensive-to-produce personnel, but has an impact on national development, including impeding R&D and constraining the development of national higher education systems.

Malaysia's practice of maintaining ethnic quotas in higher education drove many of its ethnic Chinese and Indian citizens abroad in search of study opportunities; many did not return. But more recent analysis shows that highly skilled individuals from all ethnicities, including ethnic Malays, are now leaving in greater numbers. A parliamentary report indicated that 140,000 left the country, probably permanently, in 2007. Between March 2008 and August 2009, 305,000 highly skilled individuals left, citing rising crime, a tainted judiciary, human rights abuses, rising Islamic fundamentalism, and an outmoded education system as key issues in their decision. Many now work in Singapore, where wages are significantly higher. Singapore, whose GDP recently outstripped that of its much larger neighbor, now has 386,000 Malaysians as permanent residents or citizens. Between 350,000 and 400,000 Malaysian citizens work in Hong Kong (*International Herald Tribune* 2010), while around 30% of emigrés seek better opportunities in nearby Australia or other Organisation for Economic Co-operation and Development (OECD) member countries. Another 20% ply their trade in another Asian country. While 785,000 Malaysians are listed as working overseas, unofficial estimates indicate an even higher number—a million or more.

Many graduates who were given scholarships to study abroad have elected to stay at the end of their studies, while demands by Malaysia's Prime Minister for such countries to reimburse Malaysia on the grounds that the graduates' training and knowledge constituted intellectual property were ignored (*Asian Sentinel* 2010). Other efforts to provide incentives to returnees have also been ineffective. The issue remains both problematic and sensitive, amid few signs that the government's promises in 2004 to increase pay for Malaysian returnees and to raise investment in R&D have been effective in luring many to return. Promised efforts by the Ministry of Science, Technology and Innovation to persuade Malaysia's knowledge diaspora to contribute more from abroad also appear to have borne little fruit.

While Viet Nam, too, has long suffered from brain drain, it has developed specific responses. As part of its ambitious target to produce 20,000 PhD graduates by 2020, half of whom are to be trained overseas, Viet Nam recently initiated a scheme to encourage study-abroad opportunities for its younger talent. Each year, 400 students are provided with scholarships to study abroad in fields deemed national priorities (such as information technology, mathematics, and the sciences). Each student receives \$35,000 annually to cover both fees and living expenses. Recipients are legally obliged to return and work for the state at the conclusion to their studies, and families incur a hefty penalty for noncompliance. In practice, few fail to return, but not all remain in the public sector, with some transferring to private firms.

While Viet Nam also has a significant knowledge diaspora to the US, Australia, and elsewhere, some residual reservations about the potential for ideological pollution by returnees, or *Viet khieu* (overseas Vietnamese), limit the enthusiasm to take advantage of highly skilled Vietnamese abroad (Welch 2010a, 2011b). Nonetheless, Viet Nam's increasing openness and vigorous economic growth are likely to create a more attractive setting for potential returnees, or the many highly skilled *Viet khieu* who are happy to contribute from abroad. Viet Nam's vigorous economic growth in recent years, averaging 7%–8% per annum, is also creating more opportunities, and a greater incentive for reengagement.

For the two Asian giants, the situation is somewhat different. Each expends considerable amounts in sending its best and brightest abroad. In 2004, the PRC spent \$5.1 billion on sending its students to study in the five leading countries (Australia, Canada, New Zealand, United Kingdom [UK], and US) (World Bank 2007:19–20), while India is estimated to have spent close to \$4 billion in 2004 (Kaul 2006). The PRC's replacement of its former stricter policy of *huiuo fuwu* (return and serve the homeland) with *weiguo fuwu* (serve the homeland) has been paralleled by the proliferation of schemes to attract highly skilled returnees and/or deploy its knowledge diaspora more effectively in the service of national development and innovation (Cai and Welch 2009, Welch and Cai 2010). While fewer than 30% of the more than 1,000,000 Chinese students who have gone abroad for study since 1978 have thus far returned, return rates have risen appreciably in recent years.

Several factors are conducive to greater engagement by the PRC's huge overseas talent pool. The country's spectacular rise in the ranks of scientific research (OECD 2008, Thomson Reuters 2009a, UNESCO 2010b), while arguably more impressive in quantitative than qualitative terms, together with its significant commitment to research (funds for which have been growing by almost 20% annually), is creating a more attractive context for returnees. Its remarkable and ongoing economic rise is forging more opportunities for highly skilled professionals, including in R&D activities, at the very time that opportunities in US, UK, and much of Europe, suffering an economic downturn that is weakening scientific research, are drying up. Research has also shown that the PRC's rise is being closely watched by its knowledge diaspora, who are universally keen to contribute, even if from overseas. While there is some evidence that the very best may still be staying abroad (Cao 2004, Simon and Cao 2009), and that some who return leave again in frustration at the still-somewhat-bureaucratic research system, the PRC has a major advantage, which it is eager to deploy (Cai and Welch 2009, Yang and Welch 2010).

Indian students studying abroad numbered 160,000 in 2005/06, the next largest number after the PRC. Of these, almost half were studying in the US, where return rates for those who had obtained their PhD were traditionally very poor. Australia and UK were the next largest destinations, while Malaysia and Singapore are proving increasingly popular. One estimate showed that India's net imports of higher education services totalled over \$3 billion dollars in 2004, almost 0.5% of GDP and equivalent to the total public expenditure on education (Agarwal 2010).

As with the PRC, significant numbers of India's graduates from its top institutions (in India's case, its IITs) study abroad, and some remain there. A further parallel with the PRC is India's dramatic economic growth, averaging around 9% annually in recent years and second only to the PRC. Again, the facts that several developed economies such as US and UK have suffered significantly from the global financial crisis and that academic and research jobs there are drying up are making the return option more attractive. While the decade from 1992 revealed average stay rates for Chinese and Indians with US PhDs rising from 65% to 96%, and from 72% to 86%, respectively (OECD 2007; Altbach 2009:187), the tide has begun to turn, with return rates in both PRC and India rising significantly in recent years (Kaul 2006:16–17; Welch and Cai 2010).

Remittances, too, are a potent sign of increased engagement by the diaspora, especially the highly skilled, who may be able to afford more and who are often involved in high-tech forms

of investment in their country of origin (Kapur and McHale 2005, Saxenian 2006). The flow of remittances to India totalled \$41 billion in 2007/08 (having risen 20 times in two decades). This can be characterized as the trickle-up phenomenon and a more potent source of growth than aid, which goes to governments (rather than people) and is much more prone to corruption (Bhagwati 2010:13; see also Kapur 2004). All in all, this may be creating a more balanced financial equation with regard to brain “circulation,” at least for the two Asian giants.

Building World-Class Universities

The universal ambition to develop world-class universities has not left developing Asia untouched. Indeed, there is something of a regional fever for each country to be able to boast of at least one, and preferably more. But within the region, there are striking differences in capacity to respond to this agenda effectively.

A review of the most credible, transparent, and measurable index of research performance, the Shanghai Jiao Tong University (SJTU) Academic Ranking of World Universities (ARWU), shows that, other than Singapore, no Southeast Asian higher education system has a single university ranked in the top 500 of the SJTU list. Overall, the PRC has 22 HEIs listed among the top 500 on the ARWU index, and India has 2 (Table 16).

Nonetheless, regional ambitions remain undimmed. Malaysia recently dubbed one of its universities (Universiti Sains Malaysia [USM]) an APEX (Accelerated Program for Excellence) university, with the stated aim of fostering an institution able to compete with the best, worldwide. Along with greater autonomy over staff, management, fees, and recruitment went higher expectations, notably to move up the ARWU to within the top 200 in 5 years, and top 100, if not top 50, by 2020; to garner 20% of its student intake from overseas; and to offer better pay and terms of service to international academic staff (*Star* 2008). An additional RM25 million was made available to USM in 2008 by virtue of its new status.

Viet Nam has also announced plans for “new model universities” as part of its highly ambitious Higher Education Reform Agenda. Using loans from the World Bank and ADB, Viet Nam plans to construct multidisciplinary international research universities, to be modelled on developed country institutions. International partnerships are built into the world-class plans. Two examples are currently operational: the Vietnamese-German University in Ho Chi Minh City (a strategic partnership with Germany) and the University of Science and Technology of Ha Noi (a strategic partnership with France). Again, as in Malaysia, these institutions are expected to be granted greater autonomy than existing universities (ADB 2010b, 2011; WENR 2010).

Again, however, the context of the two Asian giants differs appreciably from the Southeast Asian examples. The PRC’s 211 and 985 programs (each of which selected a number of top-tier HEIs for additional investment) are perhaps the clearest examples of such a national policy that also conveys a clear expectation that the chosen institutions will lead the push for world-class research and national innovation capacity. An extra \$4 billion dollars was targeted for the chosen institutions from the late 1990s, as part of the 985 program, creating a clear division between these top-tier institutions and the rest. Even within the ranks of the chosen, disputes arose, since two universities (Peking and Tsinghua) gained the lion’s share of additional resources. They are also the leading PRC HEIs in all international rankings (Yang and Welch 2011; in press).

Table 16 PRC and India HEIs Listed among the Top 500 on the ARWU Index

University	Ranking
Peking University	167
Tsinghua University	178
Fudan University	210
Nanjing University	220
Shanghai Jiao Tong University	233
University of Science and Technology of PRC	282
Zhejiang University	300
Indian Institute of Science	319
Shandong University	341
Sichuan University	342
Sun Yat Sen University	346
[People's Republic of] China Agricultural University	410
Dalian University of Technology	413
Harbin Institute of Technology	420
Huazhong University of Science and Technology	421
Indian Institute of Technology Kharagpur	422
Jilin University	425
Lanzhou University	431
Nankai University	437
Southeast University	448
Tianjin University	454
Wuhan University	496
Xiamen University	497
Xian Jiao Tong University	498

ARWU: Academic Ranking of World Universities, HEI = higher education institution, PRC = People's Republic of China. Source: Shanghai Jiao Tong University Academic Ranking of World Universities 2011.

In many ways, the 985 program has been a success, with the chosen institutions being responsible for much of the advanced research behind the PRC's remarkable rise in scientific output in recent years (Yang and Welch 2011, in press). While the PRC accounted for only 0.4% of scientific publications worldwide in 1980, this rose to 11% by 2009 (UNESCO 2010b). The PRC is now acknowledged as publishing more articles on nanotechnology, for example, than any other country, and some of its leading universities are well on the way to becoming world class, especially in specific scientific fields.

Many of the PRC's leading scientists working abroad are keen to assist, and return rates from the US and elsewhere are rising (Zweig et al. 2004; Welch and Zhang 2007, 2008; Zweig et al. 2008; Cai and Welch 2009; Welch and Cai 2010; Yang and Welch 2010). There is also some evidence showing that, overall, the gains are more significant in quantitative than qualitative

terms (OECD 2008, Thomson Reuters 2009a, Mohrman and Wang 2010). Nonetheless, the rapid rise of PRC researchers in the natural and medical sciences journals, including some of the most distinguished, is itself a genuine scientific phenomenon of the last decade or two (Mohrman 2008; UNESCO 2010b; Yang and Welch 2011, in press).

India's plans are no less ambitious, although its record of implementation is more mixed. Its current 5-year plan increases spending on higher and technical education by 500% and includes plans to develop numerous new IITs, Indian institutes of management, and central universities. After some time, in late 2010, India's National Development Council finally approved establishment of 14 world-class universities. To be set up in a range of states, some are likely to be new (termed innovation universities), while others will develop from existing institutions, which will be provided with top-up investment (Sify 2010). India, too, shows impressive gains in scientific output, as measured by indexes such as the Web of Science (Thomson Reuters 2009b), if not as dramatic as those of the PRC.

Even if all the institutions listed above were to be created, however, doubts have been expressed as to whether sufficient numbers of top-class academics might be found to staff them (Altbach 2010). The size and quality of India's impressive knowledge diaspora represents a key competitive advantage, but how many could be induced to return? The funding for India's world-class initiatives, which is much lower than the PRC's, has also been criticized as quite inadequate, in a context where even its top institutions, such as the IITs, are funded rather like other institutions.

Do all countries need world-class universities? And is it always the best use of limited resources for higher education? While the desire to have such institutions is understandable, as flagships of the national higher education system, and as a signal of international competitiveness and prestige, it may well be that for some countries there are more important priorities, namely the building and enhancement of a more diversified higher education system that better serves the nation's development needs (Salmi 2009). In this sense, one could argue that each system has its own needs and its own strengths, and that the investment of many resources and much hope, and hype, in ambitious plans that may or may not be realized is not always the best use of scarce resources, human and financial. Ultimately, developing countries in the Asian region, while at different stages of development and with differential resource constraints, will make their own choices, based on their own perceived needs. In Southeast Asia, Malaysia and Thailand are best positioned both to lift overall quality as well as to establish one or two premier institutions.

Arguably, however, the two Asian giants are best positioned to take advantage of their substantial knowledge capacity and infrastructure, to develop leading-edge HEIs with the capacity to contribute to scientific development and innovation, in both national and world terms. Each has a large pool of talent, often with overseas experience, and worldwide knowledge diasporas, with a commitment to assist their homeland. India's challenge is to harness this undoubted skills pool and to coordinate its domestic higher education strategy in order to bring its ambitions to fruition. The PRC's commitment is unambiguous and has already yielded impressive results; its challenge is to cultivate more independent and genuinely innovative modes of research that are freer of bureaucratic control. Overall, developing countries in Asia are currently grappling with a shortage of high-quality academic staff, particularly PhDs, and an ageing professorate.

Counting the Income: Transnational Trade in Higher Education

Trade in higher educational services has traditionally been dominated by OECD member states, especially English language providers; Australia, Canada, US, and UK are among notable examples. Some years ago, for example, Australia, US, and UK together accounted for 49% of international student enrollments, of which a large proportion stemmed from the Asia-Pacific region (OECD 2003:275; Welch 2011a). As recently as a decade ago, data showed the dominance of this trade by English-speaking nations, with the four main English-speaking countries accounting for 54% of all international enrollments (OECD 2002:94) and for some 70% of students from Asia and Oceania (Welch 2011a). The annual income generated is now substantial, with 2008 earnings for the US estimated at \$15.5 billion, for the UK \$11.2 billion, for Australia \$8.0 billion, and for Canada \$3.1 billion (Welch 2011a:46). Worldwide trade in educational services, which was conservatively estimated by OECD at \$30 billion in the late 1990s, was more recently estimated at \$2.2 trillion (Ng and Tan 2010).

In the past decade, however, the dominance of OECD nations and, to a lesser extent other English-language providers, has changed significantly, with key Asia-Pacific higher education systems moving aggressively to enter the global competition for international students. PRC, Malaysia, and Singapore all represent notable attempts to position themselves as major hosts of international students, and the latter two to develop as education hubs.

The PRC now enrolls more than 240,000 international students, an almost six-fold increase over 1998, and around 40 times more than in 1988, when a mere 5,835 international students were enrolled in its universities. Although most such students are still enrolled in nondegree courses, largely language and culture programs, the proportion of those enrolled in formal degree programs is growing: It was 35.8% in 2008 (Jiang and Ma 2011). A recent Peking University research project that estimated direct earnings (excluding accommodation, transport, and associated consumption) from long-term international students at between \$0.96 billion and \$1.15 billion, with a further \$0.09 billion earned from short-term students (Jiang and Ma 2011), may well have underestimated total income. Enrollments and income are each set to rise significantly, with the government's National Plan for Medium- and Long-Term Education Reform and Development 2010–2020 setting a target of 500,000 international students by 2020.

Across the PRC, fees vary according to program, and to some extent according to institution, with elite HEIs in Beijing levying significantly higher fees. For example a regional HEI such as Jilin University charges Rmb13,000 (approx \$2,000) per annum for its language program, compared with Tsinghua University in Beijing, which charges Rmb26,600 (\$4,100). In each case, accommodation costs are additional. Tsinghua's full-time 2-year MBA program, taught in English, incurs a tuition fee of Rmb188,000 (\$29,000) (Tsinghua University 2011). By comparison,

a major HEI in a major city, such as Tianjin University, charges Rmb40,000 (\$6,150) per annum as tuition fee for its MBA program.

In 2010, Malaysia enrolled about 24,000 international students in its public universities and a further 62,700 in its private universities, yielding an overall total of about 86,900 (Malaysia Department of Higher Education 2010a, 2010b). While the PRC looms large as a source country, an interesting and less well-researched dimension in Malaysia's case is its success in marketing its programs to the Islamic world (Malaysia Department of Higher Education 2010a, 2010b; Welch 2011a; 2011b; 2011, in press). By 2007, notwithstanding Malaysia's efforts to recruit a substantial number of students from the PRC, Indonesia had replaced the PRC as the largest source of international students from the region (Welch 2011b:71); 2010 figures show a total of 9,888 Indonesian enrollees at Malaysian universities—6,119 in private HEIs and 3,769 in public HEIs (Malaysia Department of Higher Education 2010a, 2010b)—while enrollments in public HEIs from countries in the Middle East totalled about 10,000, which, together with a further 15,000 in private HEIs, yielded an overall Middle East enrollment of about 25,000 (Malaysia Department of Higher Education 2010a, 2010b). While it is not yet possible to accurately estimate Malaysia's total earnings from trade in international higher education, the total enrollments indicate that it is substantial, and likely to grow, given that ambitious enrollment targets have been announced for the coming years.

International enrollments comprise 3.3% of Singapore's economy, with plans to grow this to 5% (Ng and Tan 2010; Welch 2011a:82–89).

Clearly, an implication of the above sketch is that more systematic research is needed in order to develop more accurate data on income derived from trade in higher educational services throughout the Asian region.

Searching for Solutions

The foregoing analysis points to several key constraints, and also to the fact that some of the solutions raise issues involving cooperation with agencies outside of education. Both the achievements and challenges discussed in this publication are considerable. In financial terms, just keeping pace with the costs of ongoing expansion will be significant. The PRC has already invested heavily and achieved mass higher education, while India's growth, however significant, still lags. Quantitative expansion will be one source of ongoing demand upon the public purse in developing Asia. But the analysis in this publication also reveals that there are clear limits to state capacity.

For Southeast Asian higher education systems, ongoing growth in the private sector is likely, bringing with it the need for more effective regulation. The growth of the private sector, including the rise of transnational delivery, some of which is of good quality, and some of which consists of no more than diploma mills, will pose greater demands and impose greater costs on already-pressed regulatory agencies throughout the region. The continuing expansion of the private sector in both the two giants (each of which has to come to terms more with the implications of a larger private sector), including the need for more effective integration into the overall system and more effective regulation, will defray some of the costs—to the state, if not to families. The equity effects will need to be carefully monitored, given the data above on highly differential access to higher education in several parts of Asia.

Quantitative expansion, however, does not exhaust the calls on the public purse. Both PRC and India, as emerging world powers, have ambitions to build world-class universities as part of their modernization and development agendas. They each also perceive this to be commensurate with their place in the world. Both Malaysia's and Viet Nam's plans to develop APEX or model universities are ambitious, in scientific and financial terms, although Viet Nam's plans are linked to outside support, at least initially, from countries such as France, Germany, and US. It remains to be seen whether Malaysia's investment will pay off to the extent anticipated, specifically having at least one of its universities ranked among the top 100 by 2020. The same might be said for Viet Nam, which has set a similarly ambitious goal, also to be reached by 2020. As argued in this publication, not all systems are equally able to build solid foundations for world-class institutions. Some might achieve better results by putting more effort into building quality and equity across the system, and delaying the costly, if enticing, goal of having a world-class university as soon as possible.

Achieving this goal will not come cheap, however. The rich mix of facilities that characterize research universities (extensive research libraries, information and communications technology and computing facilities, high-quality researchers and students) places them largely beyond

the bounds of the private sector, so states wishing to develop such institutions will need to invest further in both creating and sustaining the necessary facilities, as well as fostering a culture of independent research that is the *sine qua non* of top-tier research institutions. The PRC has thus far shown greater resolve than India, but each will need to make substantial, and continuing, further investments to create this elite tier of institutions (Yang and Welch 2011, in press). Regional governments will also need to manage the fallout, notably resentment on the part of non-APEX HEIs, whose leaders sometimes argue that the additional funding made available to the elite sector or institutions would be better spent in lifting quality throughout the system (or at least giving more to them).

At the same time, the impact of such developments on equity in higher education cannot be ignored. The fact that rural, gender, class, and ethnic disadvantages begin much earlier than the inception of higher education in no way absolves it from the responsibility to develop talent wherever it occurs. The failure to do so is not merely a failure of equity, but also involves significant social and economic costs. While precise financial measures of the costs of failing to cultivate the talents of women, minorities, and the poor are not always readily available, the human costs to the individuals concerned, and the overall cost to society of missing out on significant proportions of the pool of available talent, are clearly considerable.

It is for this reason, perhaps, that several governments in the region are moving towards more inclusive growth models (ADB 2010a). PRC President Hu's speech at the 2010 Asia-Pacific Economic Cooperation (APEC) Human Resources Ministerial Meeting in Beijing in September 2010, for example, reinforced at an APEC Leaders Meeting in Japan 2 months later, outlined four strategies to achieve inclusive growth, the first of which is to give priority to human resource development; second, to plan for full employment; third, to improve workers' quality and capacities; and finally, to base social security on sustainable development (Hu 2010). Clearly, the first and third of these priorities depend in large measure on a quality higher education system that is widely available to individuals with ability from every walk of life, independent of gender, geography, ethnicity, or poverty. Among Southeast Asian nations, Viet Nam has made sustained efforts to improve access to higher education by the poor and by rural dwellers, but the ambitious targets announced as part of its higher education expansion plan may yet test its resolve.

The long-standing use of ethnic quotas in Malaysian higher education has forced many Chinese and Indian Malaysians into the private sector, and overseas; significant numbers have not returned, depriving Malaysia of some of its best and brightest (Salmi 2009). The formal removal of ethnic quotas in 2003 was celebrated by some vice-chancellors, but claims persist of informal modes of discrimination. By contrast, India presents a complex example of a developing nation that has long grappled with extending provision of education to the *dalit*, other scheduled castes, and tribal groups, including higher education. Decades-long policies of positive discrimination, termed "reservations," in India are both complex and contested, and the jury is still out on whether the policies on reservations have been effective or constitute a meritocracy. The recent extension of the policies to the elite IITs is likely to raise the temperature of the debate still further, but reinforces the link between equality and quality. It has been argued that no system that fails to cultivate all of its talent, irrespective of gender, poverty, or ethnicity, can be deemed a quality system. While no system has ever achieved this goal, Asian systems are now appreciating that there is much more to do.

The socially differential effect of the moves to shift costs from the state to families and individuals needs closer investigation and more attention, including by governments within the region. It is one thing for a wealthy family in a major city to sustain sometimes substantial increases in tuition fees and associated costs; it is quite another for families of the rural poor, for women, and for disadvantaged minorities, for whom it represents a much greater sacrifice—if indeed it is possible at all. If the trend towards cost sharing without effective social protection measures to support the disadvantaged continues, the result will be a mere cost shifting, and the impact on equity will be profound, with major losses in terms of both social inclusiveness and equality, and economic efficiency.

More and more systematic data are required to gauge the effects of higher education massification and privatization. This should include close analysis of the impact of the transnational trade in higher education upon the region. From the above, the effects on the poor and marginalized will need close monitoring. The increasing privatization of public sector HEIs, where fees are now often rising at rates higher than inflation, is having a particular effect on the poor, who are already falling further behind as the gaps between rich and poor and between urban and rural continue to increase in many parts of Asia. Traditionally excluded from quality private HEIs by virtue of high fees, such students are now also increasingly unable to afford the rising fees at public HEIs. If at all, their only recourse may be to poor-quality, demand-absorbing private HEIs.

Equally, the differential impact of graduate employment and underemployment, an increasing phenomenon in both the regional giants (*Bloomberg Business Week* 2010, *China Daily* 2010b) as well as in other parts of Asia, on families of different socioeconomic status needs to be taken into account more. Poor families that have succeeded in securing places in higher education for their sons or daughters may well have made considerable sacrifices to do so—for them, graduate unemployment is a much greater burden than for wealthier families.

Recommendations

Higher education is expensive. Finding the resources to fund the rapid expansion of university enrollments over the last decade has put considerable pressure on both governments and HEIs. In efforts to handle these costs, many governments and universities have cut corners. They have tried to reduce operating costs by increasing student/teacher ratios, allowing the real value of instructional salaries to fall, deferring maintenance, recruiting less qualified (and less expensive) instructors, and starving libraries and laboratories of funding. Quality has suffered. For the most part, government and education leaders know this; the problem and the factors that have created it are well understood. What is less clear are the most viable solutions. There is widespread interest in finding the funds needed to reverse the erosion of quality caused by past underfunding. But accomplishing that reversal requires both new sources of funding and greater efficiency in the use of existing funds.

The final section of this publication focuses more on operational priorities for improving the cost efficiency and financing of higher education. Also in this context, the issue of equitable provision of higher education requires attention.

Basically, government and university leaders have six choices:

- They can continue to underfund higher education and accept lower quality, though this poses a risk to national competitiveness that virtually all countries find unacceptable.
- They can find new sources of funding for higher education by shifting some of the costs of public higher education to students and their families and by allowing and encouraging the growth of private, fee-based higher education.
- They can lower the cost of delivering instruction in ways that do not erode quality.
- They can cap rates of enrollment growth in public higher education at a level that allows for the delivery of quality education within available levels of funding.
- They can develop a differentiated higher education system by deliberately concentrating resources in top-tier institutions while allowing quality to erode in the others.
- They can undertake some combination of these strategies.

Each strategy offers advantages and incurs costs.

Recommendation 1: Encourage governments and higher education institutions to more fully implement quality assurance measures

Rationale. The growth of higher education has often outstripped the capacity of regulatory agencies (whether ministries or national boards) to control quality in the higher education sector (and particularly with respect to private colleges and universities). But limited capacity is only part of the problem. Officials charged with QA have, at times, themselves become part of the

problem. Hence, it becomes important to link QA programs to training in good governance, including transparency issues.

Recommended actions. Assist in professional development of officials charged with implementing QA in higher education, and integrate anticorruption training into professional development programs.

Recommended support through project operations. Include in project operations support to a series of regional and subregional workshops and in-country professional development programs *linking training in QA procedures with training in anticorruption measures*. Where possible, undertake these project operations in collaboration with regional QA agencies.

Recommendation 2: Assist countries to assess the economic and social returns associated with different strategies for distributing support to higher education institutions

Rationale. Considerable efforts and resources are being devoted to fostering top-tier, world-class universities. Allocation of disproportionate resources to these top universities may inhibit the development of other important aspects of the higher education system. More clarity is needed concerning the returns to national economic and social development of concentrating higher education resources in top-tier universities.

Recommended actions. Assist governments and higher education leaders in assessing the trade-offs associated with developing “world-class” universities. Give particular attention to how such a strategy affects the growth and capacity of the wider higher education system.

Recommended support through project operations. Projects can sponsor *case studies* aimed at assessing the returns to national development of concentrating investment in top-tier universities versus the returns achieved through more balanced investment across the range of HEIs. In these aspects, projects also can support participation in regional and cross-border knowledge sharing and capacity development events in *higher education planning*.

Recommendation 3: Improve the quality of institutional data and the range of institutions from which they are collected

Rationale. Institutional performance is often being linked to accreditation and to resource considerations, but this strategy works only if the quality and comprehensiveness of institutional data are solid. As research has demonstrated, in some countries, entire categories of HEIs remain outside existing accreditation processes. In increasing numbers of public HEIs, “diploma,” “executive,” or “extension” programs generate significant income, which, however, is not always fully or transparently accounted for.

Recommended action. Assist relevant ministries and/or agencies to widen the scope and reliability of accreditation procedures, including for “diploma,” “executive,” and “extension” programs, and associated issues of quality and transparency.

Recommended support through project operations. It will be important for projects to help strengthen the capacity of ministries and agencies in the *design and implementation of accreditation* in higher education. Projects can provide technical support and finance in-country workshops, participation in regional events, and study visits in this area.

Recommendation 4: Map student flows and associated financial returns more systematically within the region

Rationale. As the gap continues to widen between spiraling enrollment growth in regional higher education and the capacity or willingness of the state to support such growth, both systems and institutions are increasing their efforts to recruit more fee-paying international students. But as research shows, we know too little about the regional dimensions of this phenomenon, how it affects the financing of higher education, associated transparency issues, and QA.

Recommended action. Assist governments and higher education institutions in comprehensively assessing student flows and associated financial flows.

Recommended support through project operations. Projects should help develop capacity for *measuring the extent of intraregional and extraregional student flows*, and associated financial flows. This will be useful in assessing the extent and impact of this growing, but too-little-understood, regional phenomenon. A targeted series of case studies, and associated capacity development workshops, financed through projects at the national and institutional levels, could contribute most to advancing understanding of this complex phenomenon.

Recommendation 5: Enhance the effectiveness of equity measures by improving the evidence on which decisions are based

Rationale. The regional experience with student loans and other finance-linked equity measures has been mixed. Student loans often go to those who need them least, while leaving the needy bereft of support. Scholarships, always scarce, are not always awarded to those who would benefit from them most. This is partly because the evidence about applicants' income, upon which to make informed, accurate decisions, is often inadequate.

Recommended action. Assist governments and HEIs in improving procedures and data for strengthening equitable provision of higher education.

Recommended support through project operations. Operations can include pilot projects—working with national tax offices, banks, and social security agencies to improve the quality and comprehensiveness of strategies for *assessing family financial need* and of procedures for *targeting the provision of financial assistance*. Pilot projects might focus initially on industries where there is more confidence about income data. Lessons learned could lead to *training programs for banks* (which in some cases disperse and manage student loans) and for ministry and HEI officials charged with implementing loans and scholarships.

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Higher Education in Dynamic Asia: Study Reports

The reports from the Asian Development Bank's regional study on Higher Education in Dynamic Asia provide an analysis of the issues facing higher education across Asia; suggest priorities among these issues; and offer detailed recommendations for the role that governments, higher education leaders, and other stakeholders and partners such as ADB could play in strengthening higher education systems and institutions in the region. Anticipated subsequent titles include the following:

Higher Education Across Asia: An Overview of Issues and Strategies (2011)

This publication summarizes findings and recommendations of a major regional study on Higher Education in Dynamic Asia, financed by ADB. It provides an overview of the critical issues challenging higher education across Asia. It summarizes suggested priorities and solutions among those key issues and offers recommendations to help countries and higher education institutions implement the solutions.

Improving Instructional Quality: Focus on Faculty Development (2011)

This publication provides an analysis of key factors that can help strengthen the internal efficiency of higher education institutions in Asia. It focuses on differentiating institutional missions, improving the quality of teaching, creating a more positive institutional culture, and strengthening university-based research.

Regional Cooperation and Cross-Border Collaboration in Higher Education in Asia: Ensuring that Everyone Wins (2012)

An increasing number of countries across Asia are participating in regional cooperation and cross-border collaborations as a strategy for strengthening their higher education systems. Often collaboration works to the advantage of each partner, but not always. The publication analyzes the popularity of these collaborations and the range of purposes, and activities. As the collaboration mechanisms have expanded, so too have the complexities. Shifting economic circumstances converge to raise new issues for higher education leaders seeking to reap the benefits of regional cooperation and cross-border partnerships.

Improving Transitions: From School to University to Workplace (2012)

The publication explores the critical issues of alignment and relevance among schools, universities, and the labor market in Asia. It argues that incoming university students must be prepared, and thus school curricula need to align with university entrance examinations. Meanwhile, university curricula ought to correspond with market demands to increase the employability of graduates with the right skill sets for the workplace.

Private Higher Education Across Asia: Expanding Access, Searching for Quality (2012)

The publication focuses on the growth of private higher education in Asia. It provides a comprehensive analysis of the various types of private higher education institutions and their functions, and pursues timely perspectives, including implications for policy, quality assurance, and accreditation.

Access Without Equity? Finding a Better Balance in Higher Education in Asia (2012)

Although expanded access is the major accomplishment of higher education systems in Asia, equitable provision of higher education is a challenge. The publication focuses on improving access to higher education for students from marginalized groups, and on mainstreaming access and equity in national and institutional policies and strategies. In addition, it analyzes the expansion of higher education access and equity via the growth of private higher education and effective technology-based instruction.

Administration and Governance of Higher Education in Asia: Patterns and Implications (2012)

The publication discusses the types and functions of various administration and governance systems of higher education in Asia. It particularly focuses on issues of institutional autonomy, and implications for financing, quality assurance, and personnel management.

Counting the Cost

Financing Asian Higher Education for Inclusive Growth

Higher education (HE) systems in Asia have expanded rapidly over the past decade. This includes the rise of private HE institutions (HEIs) and privatization of public sector HEIs. This HE massification has stretched the capacity of governments and agencies to address the cost, financing, equity, and quality implications of expansion. This publication reviews the key aspects of HE costs and financing, considering Asia's framework on inclusive growth from the perspective of disadvantaged students such as the poor, women, ethnic minorities, and students from rural areas.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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