

Education in Developing Asia

Volume 3

**The Costs and Financing of Education:
Trends and Policy Implications**

Mark Bray



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Comparative Education Research Centre
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List of Abbreviations

ADB	—	Asian Development Bank
DMC	—	Developing Member Country
FTE	—	Full-Time Equivalent
DMC	—	Developing Member Country
GDP	—	Gross Domestic Product
GNP	—	Gross National Product
HPAE	—	High-Performing Asian Economy
Lao PDR	—	Lao People's Democratic Republic
OECD	—	Organisation for Economic Co-operation and Development
PPP	—	Purchasing Power Parity
PRC	—	People's Republic of China
UNDP	—	United Nations Development Programme
UNESCO	—	United Nations Educational, Scientific and Cultural Organization
UNICEF	—	United Nations Children's Fund
VET	—	Vocational Education and Training

Currency Equivalents (As of 15 March 2000)

	Currency Unit	
Baht (B)	B1.00 = \$0.02644	\$1.00 = B37.8200
Dong (D)	D1.00 = \$0.00007138	\$1.00 = D14,009
Nepalese Rupee (NRe/NRs)	NRe1.00 = \$0.01448	\$1.00 = NRs69.0500
Pakistan Rupee (PRe/PRs)	PRe1.00 = \$0.01927	\$1.00 = PRs51.8900
Pound Sterling (£)	£1.00 = \$1.5787	\$1.00 = £0.6334
Singapore dollar (S\$)	S\$1.00 = \$0.5821	\$1.00 = S\$1.7180
Taka (Tk)	Tk1.00 = \$0.01967	\$1.00 = Tk50.8500
Yuan (Y)	Y1.00 = \$0.1208	\$1.00 = Y8.2800

Note

In this booklet, "\$" refers to US dollars, unless otherwise specified.

Foreword

The Asian Development Bank (ADB) is a major source of funds and technical advice for the education sector in the Asian and Pacific region. ADB has provided nearly \$3.5 billion for education since 1990, representing an average of about 6 percent of total ADB lending per year during that period. ADB recognizes that human development is the basis for national and economic development, and that education – particularly basic education – is a fundamental element of human development. ADB seeks to ensure that its education investment is effectively targeted and efficiently utilized. It further recognizes that a clear policy framework based on careful analysis of the status and development needs of the education sector is necessary for effective investment.

ADB has therefore committed itself to a comprehensive process of review and analysis as the basis for preparing a new education sector policy paper. The policy paper will guide ADB in its support for education in the first years of the 21st century. It will be based on a series of activities, all designed to ensure that the education policy adequately reflects the rapidly evolving circumstances of the region.

ADB commissioned eight country case studies and five technical working papers as inputs to the policy formulation process. The case studies, undertaken by leading education research institutes in the countries concerned, analyzed the issues in education and the policies that had been developed to address the issues. The technical working papers examined selected cross-cutting issues in education development in the region. The case studies and the technical working papers were discussed at a major regional seminar involving representatives of government ministries of education, finance, and planning. Later, the case studies and working papers were integrated into a single publication *Education and National Development in Asia: Trends, Issues, Policies, and Strategies*. This study in turn was an input into ADB's education sector policy paper.

The five technical working papers contain a great deal of useful data and analysis, and it is important to ensure that they are fully available to education policymakers, practitioners, and scholars in the region and elsewhere. Consequently, revised versions are being published separately in their entirety jointly by ADB and the Comparative Education Research Centre of the University of Hong Kong as part of this series entitled *Education in Developing Asia*. ADB hopes that the papers and their wider availability will contribute to a

better understanding of the emerging challenges of education development in the region. ADB is pleased to have the partnership of a well-known academic institution in this publication, and thanks the authors and their associates for their contribution.

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Introduction

This booklet is one of a series of five that focus on education in the developing member countries (DMCs) of the Asian Development Bank (ADB). The other four booklets focus on education policy, management and administration, quality, and equity and access. To some extent, the foci of these booklets overlap. For example, most improvements in the quality of education require some finance, while most decisions on the financing of education have implications for equity and access. Because of this overlap, the booklets can usefully be read in conjunction with each other. However, the booklets have been designed as freestanding works which can also be read independently.

Like the other booklets, this one is primarily concerned with formal kindergarten, school, technical/vocational, and higher education systems. The work is concerned not only with government financing of education but also with various forms of private, household, and community financing. Comments are made on distance education, especially at the tertiary level. However, the focus does not include training given by companies for their workers, supplementary adult education classes, or the majority of other kinds of nonformal and informal education.

While the significance of the topic might be self-evident, its importance deserves to be made explicit. All societies confront basic questions about the scale, nature, and balance of education financing. They must decide on the volume of resources to allocate to education activities; identify ways to generate those resources; and consider methods to maximize cost-effectiveness in education investment. Because these basic challenges confront all societies, they provide a thread of commonality throughout the region and throughout the booklet.

At the same time, the emphases of particular questions, and the natures of the answers, vary substantially within the region. Relatively rich countries face different challenges from relatively poor ones; former socialist states may have different priorities from long-standing capitalist ones; and small countries have different opportunities and constraints from large ones. These variations provide instructive contrasts which, as in all comparative studies, help identify contours which might otherwise go unnoticed. Comparative analysis also provides a set of experiences from which others can identify both models that might be desirable to emulate and mistakes that should be avoided.

In terms of geographic coverage, this booklet is concerned with the DMCs of ADB. For much discussion, the country is the basic unit of analysis. However, in many instances it is important to note both variations within countries and themes that concern clusters of countries. These cannot all be explored in a work of this length; but readers should constantly bear in mind that national boundaries are artificial creations, and that many social, political,

and economic forces neither confine themselves tidily to those boundaries nor affect all parts of individual nation states with equal emphasis.

The study begins by presenting some background information on the countries on which the analysis particularly focuses, on groups of countries, and on the Asian and Pacific region as a whole. It then turns to the scale of education and the volume of expenditures, noting the balance between government and nongovernment inputs, and commenting on changes over time.

The next section turns to matters of unit costs and their determinants. It presents information on differences between and within levels of education, and discusses the policy implications of these differences. This is followed by a summary of the debate on the respective roles of government and private sectors in the education sector. In turn, this discussion leads to commentary on trends in cost sharing and revenue generation at the system and institutional levels. The following section notes the scale and orientation of external aid for education in some countries. The penultimate part looks at different strategies for different groups of countries, while the last section summarizes and concludes.

Contextual Features

ADB's DMCs are listed in Table 1, which also contains data on their populations, per capita gross national product (GNP) in US dollars, real gross domestic product (GDP) per capita in purchasing power parity (PPP) dollars, and the United Nations Development Programme (UNDP) Human Development Index. These figures show wide variations, which impose limits on the extent to which the Asian and Pacific region can be considered a single entity. For example, the population ranges from just 10,000 in Tuvalu to 1.2 billion in the People's Republic of China (PRC). GNP per capita ranges from \$220 in Nepal to \$32,810 in Singapore; real GDP per capita ranges from PPP\$1,050 in Bangladesh to PPP\$28,460 in Singapore, while the Human Development Index ranges from 0.371 in Solomon Islands to 0.888 in Singapore.

In addition to these variations exposed by numerical data are variations arising from politics, religion, and geography. Elaborating on this point:

- *Political systems.* Some states (PRC, Lao People's Democratic Republic [Lao PDR], and Viet Nam) remain officially committed to a socialist ideology, while others (e.g., Cambodia, Kyrgyz Republic, Mongolia) have officially abandoned socialism, and yet others (e.g., Fiji Islands, Malaysia, Philippines) have always had capitalist societies. Political ideology has major implications for the structure of education financing.
- *Religion.* In some parts of the region the dominant religion is Christianity (e.g., Philippines, Vanuatu); in others it is Islam (e.g.

Table 1: Basic Statistics for Developing Member Countries

<i>Economy</i>	<i>Population (million)</i>	<i>GNP per capita (\$)</i>	<i>Real GDP per capita (PPP\$)</i>	<i>Human Development Index</i>
Afghanistan	26.0	250	—	—
Bangladesh	125.6	360	1,050	0.440
Bhutan	0.6	430	1,467	0.459
Cambodia	10.9	300	1,290	0.514
China, People's Republic of	1,230.4	860	3,130	0.701
Cook Islands	0.02	4,972	—	0.822
Fiji Islands	0.8	2,460	3,990	0.667
Hong Kong, China	6.8	25,200	24,350	0.880
India	955.2	370	1,670	0.545
Indonesia	199.9	1,110	3,490	0.681
Kazakhstan	15.8	1,350	3,560	0.740
Kiribati	0.08	920	—	0.515
Korea, Republic of	46.0	10,550	13,590	0.852
Kyrgyz Republic	4.7	480	2,250	0.702
Lao People's Democratic Republic	4.8	400	1,300	0.491
Malaysia	21.7	4,530	8,140	0.768
Maldives	0.3	1,180	3,690	0.716
Marshall Islands	0.06	1,890	—	0.563
Micronesia, Federated States of	0.1	2,070	—	0.569
Mongolia	2.4	390	1,310	0.618
Myanmar	46.4	—	1,199	0.580
Nauru	0.01	3,450	—	0.663
Nepal	21.7	220	1,090	0.463
Pakistan	135.3	500	1,560	0.508
Papua New Guinea	4.4	930	2,654	0.570
Philippines	73.5	1,200	3,520	0.740
Samoa	0.2	1,140	3,550	0.590
Singapore	3.13	32,810	28,460	0.888
Solomon Islands	0.4	870	2,310	0.371
Sri Lanka	18.6	800	2,490	0.721
Taipei, China	21.6	13,310	—	—
Tajikistan	6.0	330	1,126	0.665
Thailand	60.6	2,740	6,690	0.753
Tonga	0.1	1,790	—	0.647
Tuvalu	0.01	1,337	—	0.583
Uzbekistan	23.3	1,020	2,529	0.720
Vanuatu	0.2	1,340	3,480	0.425
Viet Nam	76.7	310	1,630	0.664

— Data not available.

Note: Data refer to the most recent year available – in most cases around 1997.

Sources: ADB 1999; United Nations Development Programme 1999a, 1999b; various national sources.

Indonesia, Malaysia); elsewhere it is Buddhism (e.g., Myanmar, Sri Lanka), while in one (India), Hinduism is a major force. In other countries, religion has largely ceased to be an important factor in society but has recently shown signs of resurgence (e.g., the PRC, Mongolia). Religious affiliations may have implications for the nature of sponsoring bodies for education institutions, and for aspects of community financing.

- *Geography.* Some parts of the region are very densely populated (e.g., Hong Kong, China; Singapore), while others are sparsely populated (e.g., Kiribati, Mongolia). Again, some countries are scattered archipelagos (e.g., Indonesia, Solomon Islands), while others are basically single blocks of land (e.g., Bangladesh, Pakistan). Population density influences the ease with which institutions can gain economies of scale, while the existence or absence of scattered islands is a determinant of the primary means of communication.

The importance of these factors will become evident at various points in the booklet, for they both determine and explain similarities and differences. Very few policy formulations can be uniformly applicable to the whole of the Asian and Pacific region. It therefore becomes necessary to identify particular policies which are appropriate for particular subregions, countries, and even provinces or districts.

However, it is also possible to identify some overarching commonalities. For example, almost all societies face issues concerning the role of the state in education. Likewise, almost all societies face issues related to expansion of access, and to supply of and demand for highly trained personnel. In addition, all societies both benefit from and have to grapple with the advances in technology which, among other effects, may change curricula and modes of delivery in education. Also, all societies have to address tensions between well-established institutions and the new structures which may become necessary.

One striking feature, particularly during the period since the early 1990s, has been the advance of capitalist modes of operation in almost all parts of the region. This has been especially obvious in the states which formally abandoned socialism, but has also been evident in most of the states which officially maintained socialist regimes. Moreover, the advance of capitalist modes of operation has been apparent even in countries which have long operated capitalist economies but which have had government-protected education systems. The chief manifestation of the change has been the advance of privatization in countries as different as India and Singapore.

Scale and Nature of Existing Education Provision

In order to see what is currently being financed, and what future needs will be, it is necessary to chart the scale and nature of existing education provision. A starting point is with statistics on enrollment rates. These of course provide only a partial picture. Even setting aside questions about the accuracy of the figures on the numbers of pupils and school-age populations, from which the enrollment rates are calculated, the statistics say nothing about actual attendance of pupils. Nevertheless, they do provide a useful point of departure.

Table 2 shows that some countries are far from achieving universal primary education, let alone substantial enrollment rates in secondary and tertiary education. Most obvious in this category are Afghanistan, Pakistan, and

Papua New Guinea, though other countries have primary school gross enrollment rates exceeding 100 percent, presumably because of the existence of underage and overage children in primary schools. At the secondary level, reported enrollment rates were as low as 14 percent in Papua New Guinea, though reached 101 percent in the Republic of Korea. Reported tertiary enrollment rates ranged from 1.0 percent in Kiribati to 52.0 percent in the Republic of Korea. These figures show substantial gaps around the region. The peoples of most countries would like to have enrollment rates that approached those of the Republic of Korea, but their economic and human capacities are too limited even to contemplate that.

Table 2: Gross Enrollment Rates in Selected Developing Member Countries, by Level (percent)

<i>Economy</i>	<i>Preprimary</i>	<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i>
Afghanistan	—	49	22	—
Cambodia	6	90	78	1.6
China, People's Republic of	29	104	27	5.7
Cook Islands	64	111	85	9.0
Fiji Islands	15	106	64	—
Hong Kong, China	90	100	75	21.9
India	5	91	49	6.4
Indonesia	19	114	48	11.1
Kazakhstan	10	100	83	32.7
Kiribati	—	98	32	1.0
Korea, Republic of	37	98	101	52.0
Kyrgyz Republic	8	98	81	12.2
Lao People's Democratic Republic	7	107	25	1.5
Malaysia	—	94	57	10.6
Maldives	59	123	49	—
Marshall Islands	15	133	81	—
Mongolia	27	103	59	15.2
Myanmar	—	103	30	5.4
Nepal	—	122	37	5.2
Pakistan	—	84	—	—
Papua New Guinea	73	63	14	3.2
Philippines	14	118	79	27.4
Samoa	38	94	47	—
Singapore	—	108	70	33.7
Solomon Islands	—	90	17	—
Sri Lanka	—	107	75	5.1
Tajikistan	4	95	22	—
Thailand	69	91	55	20.1
Tonga	10	90	95	5.0
Tuvalu	91	100	45	10.0
Uzbekistan	24	89	93	31.7
Vanuatu	34	97	20	—
Viet Nam	40	108	47	4.1

— Data not available.

Note: Data refer to the most recent year available – in most cases around 1997.

Sources: UNESCO 1998, 2000a, 2000b, 2000c, 2000d; various national sources.

Statistics on preprimary education are generally more scarce than those on primary, secondary, or tertiary education. This is partly because in many countries preprimary education is dominated by the private sector, and governments have incomplete data on the sector. In general, enrollment rates at the preprimary level are low, though they are about 90 percent in Hong Kong, China, for example. In that society, the authorities have insisted that preprimary education is not an essential component of the education system. However, the majority of parents consider it essential, and primary schools in that society generally assume that children have learned basic literacy and numeracy in preprimary education.

Alongside the quantitative patterns indicated by the statistics on enrollment rates should be placed a commentary on qualitative variations. This is done in the booklet in this series on the quality of education (Chapman and Adams 2002), and need not be repeated. It is sufficient here to note that in some countries expenditure produces education with good quality (albeit always with room for improvement), while in other countries quality is very low. The latter again indicates gaps that need more financing and/or more efficient use of existing resources.

Volume of Expenditures on Education

Public Expenditures

Table 3 presents information on the volume of public expenditures on education in DMCs. Once again, the variations are substantial. Whereas expenditures by the Cambodian Government represented only 1.0 percent of GNP, the figure for the Kyrgyz Republic was 6.8 percent. Public expenditures on education as a proportion of the total budget ranged from 7.4 percent in Viet Nam to 23.1 percent in the Kyrgyz Republic. Education was commonly the largest item in government budgets.

Table 3 also shows figures on the distribution of government budgets at different levels of education. The statistics are only for recurrent expenditures. In most countries, government capital expenditures would have been greater at the tertiary than at the primary level, and probably also greater than at the secondary level. Again the figures show major variations. Whereas the Government of the Lao PDR spent only 3.9 percent of its education budget on higher education, in Hong Kong, China the figure was 37.1 percent. The former figure reflected the fact that the tertiary sector in the Lao PDR was very small, though scheduled for major expansion. The latter figure reflected a tertiary sector that had already been expanded to cover 25 percent of the age group and that was basically publicly funded. Tertiary enrollment rates in the Republic of Korea were higher than in Hong Kong, China; but since the bulk of provision was private, only 7.9 percent of the Government's recurrent budget for education was allocated to the sector.

Table 4 shows regional aggregates over time. In Eastern Asia, public expenditures on education as a proportion of GNP rose slightly between 1980

Table 3: Public Expenditures on Education in Selected Developing Member Countries
(percent)

<i>Economy</i>	<i>Public expenditures on education as % of GNP</i>	<i>Public expenditures on education as % of total gov't. budget</i>	<i>Distribution of recurrent expenditure (%)</i>		
			<i>Preprimary and primary</i>	<i>Secondary</i>	<i>Tertiary</i>
Bangladesh	2.3	8.7	44.2	43.3	7.9
Bhutan	4.0	10.0	41.5	18.4	22.3
Cambodia	1.0	10.0	—	—	—
China, People's Republic of	2.3	12.2	36.9	31.5	16.5
Fiji Islands	5.4	18.6	50.5	37.0	9.0
Hong Kong, China	2.8	17.0	21.9	35.0	37.1
India	3.5	12.1	38.4	26.1	13.6
Indonesia	2.2	—	—	—	—
Kazakhstan	4.5	17.6	—	—	12.5
Kiribati	6.3	17.6	—	—	—
Korea, Republic of	3.7	17.4	45.5	34.4	7.9
Kyrgyz Republic	6.8	23.1	—	—	—
Lao PDR	2.4	—	42.2	43.5	3.9
Malaysia	5.3	15.5	35.4	41.2	16.8
Maldives	8.1	13.6	67.0	32.0	5.0
Mongolia	6.0	15.1	24.4	—	—
Nepal	2.9	13.2	44.5	17.7	28.1
Pakistan	2.7	7.9	48.0	24.0	14.0
Philippines	2.2	—	63.9	10.1	22.5
Samoa	4.2	—	52.6	25.2	—
Solomon Islands	4.2	—	56.5	29.8	13.7
Sri Lanka	3.1	8.1	—	—	12.2
Taipei, China	6.2	17.9	—	—	—
Thailand	4.2	20.1	52.8	21.5	16.5
Tonga	4.7	17.3	38.8	24.2	7.3
Vanuatu	4.9	18.8	57.9	33.0	6.4
Viet Nam	2.7	7.4	40.0	20.0	16.0

— Data not available.

Note: Most data refer to the period around 1995.

Sources: Haq and Haq 1998; UNESCO 1998; various national sources.

Table 4: Public Expenditures on Education as a Percentage of GNP, by Region, 1980-1995

<i>Region</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>
<i>More developed regions</i>	5.2	5.0	5.0	5.1
North America	5.2	5.1	5.4	5.5
Asia/Oceania	5.0	4.5	4.0	4.0
Europe	5.2	5.2	5.1	5.4
<i>Less developed regions</i>	3.8	3.9	3.9	4.1
Africa (excluding Arab states)	5.1	4.8	5.1	5.6
Eastern Asia	2.8	3.1	3.0	3.0
China, People's Republic of	2.5	2.5	2.3	2.3
Latin America and the Caribbean	3.8	3.9	4.1	4.5
Southern Asia	4.1	3.3	3.9	4.3
Arab States	4.1	5.8	5.2	5.2

Source: UNESCO 1998, 110.

and 1995, but in Southern Asia they fluctuated. In general, the less developed countries of Asia devoted a smaller proportion of GNP to education than did their counterparts in Africa. This particularly reflected the low level of teachers' salaries in Asia as a proportion of per capita GNP. The proportion was also below that in the more developed countries of North America, Asia/Oceania, and Europe. The proportion was particularly low in the PRC. Many observers consider that the proportion should be raised in the PRC and in other countries where it is especially low.

Private Expenditures

The nature of education expenditures in the Republic of Korea deserves elaboration, because it underlines the danger of citing government expenditures as if they were the only ones. Such a tendency is evident in many documents, but may lead to a very biased picture. In the Republic of Korea, nongovernment expenditures on education in 1994 formed 71.1 percent of total expenditures. During the period since 1977, private expenditures have grown much more rapidly than public ones (Paik 1995, 15).

Although detailed data are regularly collected on private expenditures in the Republic of Korea, the same cannot be said of most other countries. As a result, cross-national statistics cannot be systematically displayed in the same way as can be done for public expenditures. This is regrettable, and the matter is in urgent need of more detailed research. Table 5 presents information on private enrollments in various economies. In particular, the table shows the high percentages of private enrollments at the preprimary level. However, the table should be viewed with caution, especially because the definition of a

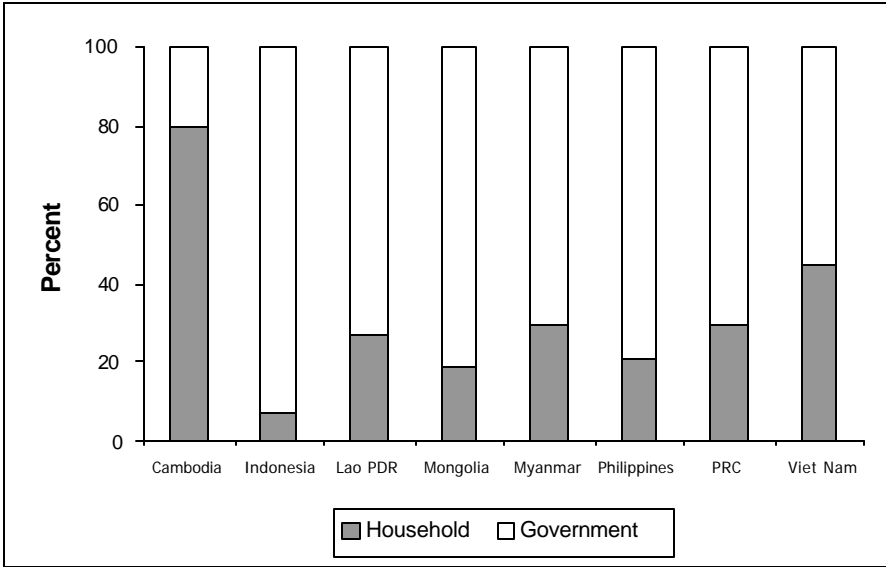
Table 5: Private Enrollments as a Percentage of Total Enrollments, Selected Developing Member Countries, 1995

<i>Economy</i>	<i>Preprimary</i>	<i>Primary</i>	<i>Secondary</i>
Cambodia	—	1	1
Fiji Islands	100	96	87
Hong Kong, China	100	10	12
Indonesia	100	18	42
Kazakhstan	—	0	0
Kiribati	—	0	77
Korea, Republic of	78	2	37
Lao People's Democratic Republic	11	2	0
Malaysia	42	—	5
Maldives	93	—	31
Nepal	—	6	—
Papua New Guinea	41	2	3
Philippines	53	7	35
Samoa	—	13	43
Solomon Islands	9	11	17
Sri Lanka	—	2	2
Thailand	26	12	6
Tonga	—	7	80

— Data not available.

Source: UNESCO 1998, 158-59.

Figure 1: Household and Government Resourcing of Public Primary Education in Selected Developing Member Countries



Note: Figures refer to the mid-1990s. The chart shows only household (including community) and government resourcing. It ignores inputs from external agencies and other sources. The figures apply only to schools officially classified as public and thus exclude private schools. Items included in calculations are not standardized by country. For example, some include transport to and from school, whereas others do not. See the individual sources for details.

Sources: Bray 1999a; Bray and Thomas 1998; Evans and Rorris 1994; Hossein 1996; Jiang 1996; Maglen and Manasan 1999; Thomas 1996; West 1995; World Bank 1997d.

private school varied in different countries. Thus, many of the students in the Fiji Islands and Tonga were in schools that were legally private but were heavily subsidized by the government and were generally considered part of the public sector of education. Countries with long-standing capitalist traditions are more likely to have substantial numbers of private enrollments than countries that are still officially socialist societies, such as the PRC and Viet Nam. However, even in those countries the number of private schools has increased significantly since the early 1990s (Kwong 1997; World Bank 1997d).

A further weakness of Table 5 is that although it shows the percentages of private enrollments in various countries, the proportion of financing coming from private sources might be very different. Figure 1 shows estimates of the proportions of household and government expenditures in public primary schools in eight DMCs. Particularly dramatic is the picture in Cambodia, where government inputs are small and where gaps are bridged by parents and communities. The nongovernment figure includes fees, transport, supplementary tutoring, and other items. Household costs are also high in Viet Nam,

though form much smaller percentages in Indonesia and Mongolia. The reason why household expenditures are high in Cambodia and Viet Nam is not the result of deliberate government policies. Rather it is because the governments have been unable by themselves to meet needs, and households have found that if they want to have schooling of even minimum quality, they must provide resources themselves (Bray 1996a).

Figure 1 refers only to the primary level (but would show even greater proportions of household financing at the secondary level). In Viet Nam, for example, households were estimated in 1994 to be meeting 44.4 percent of the costs of public primary education, but 48.7 percent of the costs of public lower secondary education and 51.5 percent of the costs of public upper secondary education (World Bank 1997d, 68).

At the tertiary level, countries with high proportions of enrollments in private institutions include Bangladesh, India, Indonesia, Philippines, and Thailand. The scale of private higher education in the Philippines deserves particular comment because it is at the extreme. In 1996/97, 1,045 out of 1,316 institutions (79.4 percent) were operated by private bodies (Johanson 1999, 2). Of these, 281 institutions were run by sectarian organizations, particularly the Catholic church. The shape of the higher education sector was thus influenced by the religious characteristics of society as well as by historical legacies and government policies (Valisno 1997). Some private universities are operated as companies, the shares of which are quoted on the stock exchange. Gonzales (1997, 264) has described changing official attitudes to the private sector in the Philippines. Prior to 1969, he says, the policy was one of *laissez faire* to the point at which 85 percent of students attended private universities that were financed almost entirely from fees. This system led to a mismatch between supply of graduates and available jobs, and also to complaints about high fees. As a result, for over a decade from 1969, the Government regulated private institutions and attempted to make the sector conform to a central plan. However, the regulations threatened the viability of some institutions, and political change led to reversal of policies in the 1980s. By 1992 deregulation was complete, and the *laissez faire* approach had come full circle.

Box 1: Public versus Private Education - A False Dichotomy?

Some documents make sharp distinctions between public and private education. In many settings, however, these distinctions are questionable. Even on the criterion of provision of finance (as opposed, for example, to control of institutions), the boundaries between public and private may be blurred. In Cambodia, 60 percent of the resources for public primary education are provided directly by households rather than indirectly via the State, while in Indonesia, 69 percent of the resources of private primary schools are provided by the Government.

Boundaries are also blurred at other levels. In Singapore, students meet 20 percent of the recurrent costs of public university-level education through fees; but at the secondary level, the Government meets over 90 percent of the costs of the institutions in the Independent Schools Scheme.

Economic Justification for Investment in Education

The scale of public and private expenditures on different levels and types of education provides an indication of de facto priorities. However, it does not indicate the rationales for those priorities. Behind the expenditures are institutional and individual decisions that have social, political, and economic goals. The social and political goals include raised levels of education in order to improve public awareness of important issues, efforts to preserve existing social orders, desires to reduce inequalities of access, and concern to reduce population growth rates. However, more relevant to this particular document are the economic goals.

Among the dominant strands of thought on the role of education in economic development is that it is an investment in human capital (OECD 1998). Within this, is the view that it is possible to calculate rates of return from investment in education, and to do so by level and type of education. The work of Psacharopoulos (e.g., 1994, 1995) has become particularly well known in this domain. Other key researchers include Schultz (e.g., 1961, 1987), Becker (e.g., 1975, 1995), and McMahon (e.g., 1997, 1998).

Table 6 shows statistics from a large number of studies of rates of return to investment in education compiled by Psacharopoulos (1994). Private returns accrue to individuals, while social returns accrue to the whole society (including the individuals). In most cases, private returns are greater than social returns because governments give more in subsidies than they take away in taxes. Regional aggregates are shown in Table 7.

On the basis of the figures in Table 6, together with related work, Psacharopoulos has argued that education is generally a good investment both for individuals and for whole societies. Within the education sector, Psacharopoulos has argued, rates of return are particularly high at the primary level, and especially in less developed countries. This suggests that in most circumstances primary education deserves priority in the allocation of extra resources. This view has helped shape World Bank policy, and has also been widely accepted elsewhere (e.g., UNDP 2000). The World Bank (e.g., 1995, 56) has argued on such evidence that expenditures in many countries have been misallocated between education subsectors, with too much emphasis on secondary and higher education.

However, evidence from some countries seems to indicate that private rates of return are falling over time (Tilak 1997a, 69). Moreover, the very concept of rate-of-return analysis in education has been subject to criticism (e.g., Leslie 1990; Bennell 1996; Curtin 1996). One argument is that greater earnings for individuals with higher levels of education do not reflect the intrinsic value of education so much that school systems operate as screening devices in which only the more talented get through to higher levels. This view does not nullify the value of investments in education, but casts a different light on the reasons for earnings differentials at different levels of education. Other criticisms of rate-of-return analysis are that the presentation of exact numbers gives the illusion of precision. Also, since rates are calculated on past data, they cannot necessarily predict what will happen in the future. Indeed, of

Table 6: Rates of Return to Education - International Comparisons
(percent)

<i>Economy</i>	<i>Year</i>	<i>Private</i>			<i>Social</i>		
		<i>Primary</i>	<i>Secondary</i>	<i>Higher</i>	<i>Primary</i>	<i>Secondary</i>	<i>Higher</i>
Argentina	1989	10.1	14.2	14.9	8.4	7.1	7.6
Australia	1976	—	8.1	21.1	—	—	16.3
Bolivia	1989	9.8	8.1	16.4	9.3	7.3	13.1
Botswana	1983	99.0	76.0	38.0	42.0	41.0	15.0
Brazil	1989	36.6	5.1	28.2	35.6	5.1	21.4
Canada	1985	—	20.7	8.3	—	10.6	4.3
Chile	1989	9.7	12.9	20.7	8.1	11.1	14.0
Colombia	1989	27.7	14.7	21.7	20.0	11.4	14.0
Hong Kong, China	1976	—	18.5	25.2	—	15.0	12.4
India	1978	33.4	19.8	13.2	29.3	13.7	10.8
Indonesia	1989	—	11.0	5.0	—	—	—
Jamaica	1989	20.4	15.7	17.7	7.9	—	—
Japan	1976	13.4	10.4	8.8	9.6	8.6	6.9
Korea, Republic of	1986	—	10.1	17.9	—	8.8	15.5
Malaysia	1978	—	32.6	34.5	—	—	—
Mexico	1984	21.6	15.1	21.7	19.0	9.6	12.9
New Zealand	1966	—	20.0	14.7	—	19.4	13.2
Nepal	1982	—	15.0	21.7	—	—	—
Pakistan	1975	20.0	11.0	27.0	13.0	9.0	8.0
Papua New Guinea	1986	37.2	41.6	23.0	12.8	19.4	8.4
Paraguay	1990	23.7	14.6	13.7	20.3	12.7	10.8
Peru	1990	13.2	6.6	40.0	—	—	—
Philippines	1988	18.3	10.5	11.6	13.3	8.9	10.5
Senegal	1985	33.7	21.3	23.0	8.9	—	—
Singapore	1966	—	20.0	25.4	6.6	17.6	14.1
South Africa	1980	22.1	17.7	11.8	—	—	—
Sri Lanka	1981	—	12.6	16.1	—	—	—
Taipei, China	1972	50.0	12.7	15.8	27.0	12.3	17.7
Thailand	1970	56.0	14.5	14.0	30.5	13.0	11.0
United Kingdom	1978	—	11.0	23.0	—	9.0	7.0
United States	1987	—	10.0	12.0	—	—	—
Zimbabwe	1987	16.6	48.5	5.1	11.2	47.6	-4.3

— Data not available.

Source: Psacharopoulos 1994, 1340-1.

the full sets of social returns for Asia reported in Table 6, only two are based on data more recent than 1978.

Even within the World Bank, the reliability of estimates of rates of return as guides for investment has been called into question, with one publication, for example, stating (World Bank 1997c, 37) that:

Despite some claims that returns to primary education are invariably high across countries of Africa, Asia and Latin America, there is growing scepticism. The work of such authors as Behrman and Birdsall (1985), Hinchliffe (1986), Knight and Sabot (1990), and Glewwe (1991) suggests that calculations have often incorporated upward biases. This has led Weale (1993) to argue that social returns to education will only rarely be in double digits.

This paragraph was used to explain how the relatively low estimates of rates of return in India could be reconciled with the higher figures reported for other countries. The World Bank publication (1997c, 36-8) presented two tables of rates of return, one from the state of Andhra Pradesh in 1977 and the other from the state of Maharashtra in 1988. The former showed social rates of return which, after adjustment for wastage, unemployment, nonparticipation in the labor force, and student ability, were only 7 percent at the primary level, 6 percent for middle schools and general degrees, and negative for secondary schools. The latter showed rates of return for primary and middle schools that were higher in urban than rural areas, and in most cases higher for females than males, but that ranged from 3.5 to 8.3 percent. Nevertheless, the document pointed out, future rates of return could at least be expected to be positive, and investment in education would also bring noneconomic benefits.

Challenge to Psacharopoulos' work with specific reference to Asia has also been presented by Bennell (1998). Two particular criticisms have been leveled (p.110). The first is that regional aggregations presented by Psacharopoulos are problematic because the individual country studies do not all cover every level and type of education, and because they vary widely in the periods of history when they were conducted. The second criticism is that Psacharopoulos relied wherever possible on unadjusted rates of return, which implied very simplistic relationships between education and incomes and which failed to take sufficient account of the many other factors which influence incomes. Table 8 reproduces figures on the impact of such adjustment, which showed significantly lower estimates.

Bennell also highlighted two reporting errors among the 13 Asian countries used in Psacharopoulos' regional aggregate, and noted the existence of other studies that had been excluded from Psacharopoulos' survey. He concluded (p.118) that aggregations "should be discarded altogether in any serious discussion of education investment priorities both for the Asian continent as a whole and individual countries." He agreed on the value of the concept of rates of return, but added that the majority of studies that have attempted to calculate rates of return for specific types of education and training are seriously flawed, mainly because sufficient data are rarely available to take

Table 7: Rates of Return to Education, by World Region and Level
(percent)

Region	Private			Social		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Sub-Saharan Africa	41.3	26.6	27.8	24.3	18.2	11.2
Asia ^a	39.0	18.9	19.9	19.9	13.3	11.7
Europe/Middle East/ North Africa ^a	87.4	15.9	21.7	15.5	11.2	10.6
Latin America/Caribbean	26.2	16.8	19.7	17.9	12.8	12.3
OECD	21.7	12.4	12.3	—	10.2	8.7

— = not available.

^a Excluding Organisation for Economic Co-operation and Development (OECD) countries.

Source: Psacharopoulos 1994, 1328.

Table 8: Unadjusted and Adjusted Social Rates of Return, by Level (percent)

<i>Economy</i>	<i>Year</i>	<i>Unadjusted</i>			<i>Adjusted</i>		
		<i>Primary</i>	<i>Secondary</i>	<i>Higher</i>	<i>Primary</i>	<i>Secondary</i>	<i>Higher</i>
India	1988 (Male)	27.5	16.8	10.8	8.5	-ve	7.0
		18.7	11.7	9.5	-ve	-ve	2.8
Pakistan	1977	14.0	10.0	9.0	10.0	8.0	7.0
Philippines	1974	7.0	6.5	8.5	5.0	6.0	7.5
Taipei, China	1972	33.0	14.8 ^a	16.7	27.0	12.0 ^a	17.7
Thailand	1977	87.5	45.1	22.0	34.3	18.5	11.4

^a Data refer to junior high school.

Source: Bennell 1998, 115.

account, in an econometrically sound manner, of all the key factors other than education that influence individual incomes.

Also significant is work by Mingat and Tan (1996), who aimed to estimate the “full” social returns to education in economies with different strengths. By the “full” returns, Mingat and Tan meant calculations that allow for the many externalities that accrue to whole societies and that are not normally taken into account by studies that merely aggregate the returns to individuals. Such externalities include the fact that a worker's enhanced productivity can have a spillover effect of enhancing coworkers' productivity; and that the general level of education in the workforce expands production possibilities by facilitating the discovery, adaptation, and use of more economically rewarding production processes. Mingat and Tan used this conceptual framework to reappraise the extent to which investments in education had contributed to economic growth in a range of countries during the period 1960 to 1985. Their findings call into question the rather generalized recommendations from some previous studies of rates of return. In particular, they suggest that for low-income countries primary education was the best investment, but that in hindsight for middle-income countries expansion of secondary education would have yielded the highest social returns, and that in high-income countries the returns would have been greatest in tertiary education. This last observation is consistent with the work by Toh and Wong (1999) who indicated that in Singapore rates of return appeared to increase with the level of education, though in the period 1980-1994 the tertiary rate of return seemed to decrease over time.

Further complexities arise from the fact that former socialist countries have inherited wage structures that may work differently from those in long-standing capitalist countries. Newell and Reilly (1999) have presented data from 10 former socialist states, of which two – Kazakhstan and Uzbekistan – are in Asia. In these 10 countries, rates of return appeared generally to have risen as the 1990s progressed; the returns from tertiary education appeared to be higher than those for technical education and, where data were available, for secondary schooling. Wei et al. (1999) conducted a study in the PRC, and found that rates of return varied considerably in different parts of the country. They tended to be higher in more developed regions. These researchers also suggested, contrary to the general view of Psacharopoulos, that rates of return might be higher for secondary than for primary education. These studies add

further weight to the argument that policy recommendations based on data on rates of return should not be oversimplified.

The role of technical/vocational education at the secondary level also remains controversial (Lewin 1993, 222-4; Mingat 1995, 24-5). One view is that academic studies do not provide sufficient ties to the needs of the labor market, especially for students who leave school at the secondary stage, and that technical/vocational training is necessary both for the direct skills that it provides and for the attitudes that it inculcates. During the 1980s, this perspective led to substantial expansion of secondary technical/vocational education in the PRC, for example (Yang 1998). Between 1989 and 1994, enrollments in PRC secondary vocational schools increased by 45.8 percent, while enrollments in regular senior secondary schools declined by 7.2 percent (Jiang 1996, 40). This change reflected official policy, which encouraged both the opening of new secondary vocational schools and the conversion of regular secondary schools. Along related lines, a 1994 policy in Taipei, China has led to experimentation with comprehensive high schools which seek to integrate the goals of general and vocational high schools and "to increase students' opportunities for exploring their vocational aptitudes" (Rau et al. 1996, 1).

An alternative view is that technical/vocational schools are necessarily more costly than academic ones, and that the outcomes from such forms of education do not usually justify the investments (Psacharopoulos 1991). This view is influenced by Foster's seminal (1966) paper entitled "The Vocational School Fallacy in Development Planning," and asserts that curricula are by themselves unable to change students' attitudes toward work when labor market signals indicate that academic studies are more likely in reality to bring greater private economic returns. Middleton et al. (1993, 187) have added that:

The prevocational skills provided in diversified curricula do not provide much of an employment advantage because employers still need to provide additional training. Larger modern-sector employers care less about whether young school-leavers have practical skills suitable for entry-level jobs and more about whether the students have the broad conceptual and communicative skills that support continued learning. These latter skills, of course, can be developed at comparatively low cost in good quality academic secondary programs.... To the extent that vocational courses have substituted for more thorough preparation in broad, general skills, a diversified curriculum may even reduce a graduate's chances for employment.

However, Bennell and Segerstrom (1998, 286) have asserted that the World Bank's reluctance to fund vocational education and training in the context of an expanding education sector budget is "essentially an ideologically driven overreaction that has been justified on the basis of a serious misreading of the evidence concerning the role of public sector VET [vocational education and training] at all stages of economic development." They agree that public-sector VET has certainly been beset with a number of deep-seated problems, but they caution against overgeneralized approaches.

Similarly, Haq and Haq (1998, 97) have described the World Bank view as

"misleading," adding that:

The lower social rates of return for technical education often result from adopting education patterns which are less cost-effective and not twinned with employment opportunities in the market. Several studies have demonstrated that if school-based vocational education responds to market demand, the earnings of such graduates are higher than those of their counterparts in general education.... Thus, social returns to vocational and technical education are sufficiently high, so long as this education is cost-effective and linked closely with market employment opportunities. Irrelevant studies are no basis for sensible policies.

Haq and Haq then proceeded to make a vigorous case for technical and vocational education to be given more attention in policy making. Their particular focus was on South Asia, but their case has wider applicability.

Nevertheless, the facts remain that much technical and vocational education is not closely linked to the labor market, that it has high unit costs, and that secondary technical/vocational schools are not necessarily the best place to provide the types of technical and vocational skills needed by economies. Thus, many forms of specific skills training may be better provided by polytechnics and on the job by employers rather than by school systems. Although school-level technical and vocational education may be an excellent investment in some circumstances, it requires careful planning. Among the factors that policies on technical/vocational education must take into account are costs, labor market outcomes, and institutional flexibility (Box 2).

The studies reported above are almost exclusively concerned with formal education systems ranging from primary to tertiary levels. Fewer studies have been conducted on preprimary education or on adult nonformal education. These might be considered areas of neglect. However, preschool education has been given some attention. For example, Young (1996, 6) has pointed out that preschooling can be a good investment for economic as well as social reasons. She observed that:

Research has shown that half of a person's intelligence potential is developed by age four and that early childhood interventions can have a lasting effect on intellectual capacity, personality, and social behavior.... By increasing children's desire and ability to learn, investment in early child education can increase the return on investment in their later education by making that education more effective. It can also enable participants to earn more and can raise their productivity in the workforce.

In Nepal, UNICEF (1997) has asserted that preprimary classes can more than pay for themselves by improving quality and readiness for schooling and so reducing repetition and dropout rates in primary schools. Investment in 1,000 preprimary schools, the document argues, could save Nepal between \$3.5 million and \$12 million a year. This statement is based on major assumptions which, when the argument was made, had not been tested empirically. However, the basic thrust of the point should be taken seriously.

Box 2: The Balance between General and Technical/Vocational Education

Particularly in contexts of unemployment and perceived irrelevance of academic education, many policy advocates have favored investment in technical/ vocational education more than general education. Indonesia is one country in which technical/vocational schools have been given emphasis. The sixth five-year plan (1993-98) called for 7.4 percent annual growth of technical/vocational senior secondary places, compared with only 5.1 percent for general senior secondary places.

A 1997 World Bank report on Indonesia questioned the wisdom of this policy. It noted that technical/vocational schools were about 40 percent more costly than general schools, that general schools were more popular among students and parents, and that the labor market outcomes for graduates of technical/vocational schools were typically no better than for their generalist competitors. The report added that because technical/vocational programs depend on bureaucratically determined factors, institutions cannot easily expand operations when there is more demand, and have no incentive to contract operations when there is less demand.

The World Bank (1997b, 78) recommended the Indonesian authorities to reconsider the budgetary priority given to technical/vocational schools, to find ways to reduce costs in the sector, and to increase the general-education content in the technical/vocational education streams. More specialized training, it was suggested, could be left to polytechnics and to job-specific training in firms. Recommendations such as these do not attract universal agreement, but they do match those made by education economists in many other countries.

A further point, made for example by Klugman et al. (1997), is that preprimary education can play an important custodial role, freeing parents for activities other than child care, including paid work. While the economics of preschool education has not received the same research-based and numerical attention as have other levels of education, it would seem that a strong case could be made for investments in the sector from an economic as well as social viewpoint.

A good case can also be made for investment in forms of adult nonformal education. The Report of the Amman Mid-Decade Meeting of the International Consultative Forum on Education for All, otherwise known as the follow-up on the 1990 Jomtien World Conference on Education for All, suggested (p.19) that "The best predictor of learning achievement of children is the education and literacy level of their parents," and that "investments in adult education and children are, thus, investments in education of entire families."

Unit Costs and their Determinants

Statistics on unit costs are an important guide to policymakers. Particularly important are unit costs by level of education (i.e., preschool, primary, secondary, and tertiary), though sometimes statistics are also needed for particular subjects (e.g., science or languages), for different streams (e.g.,

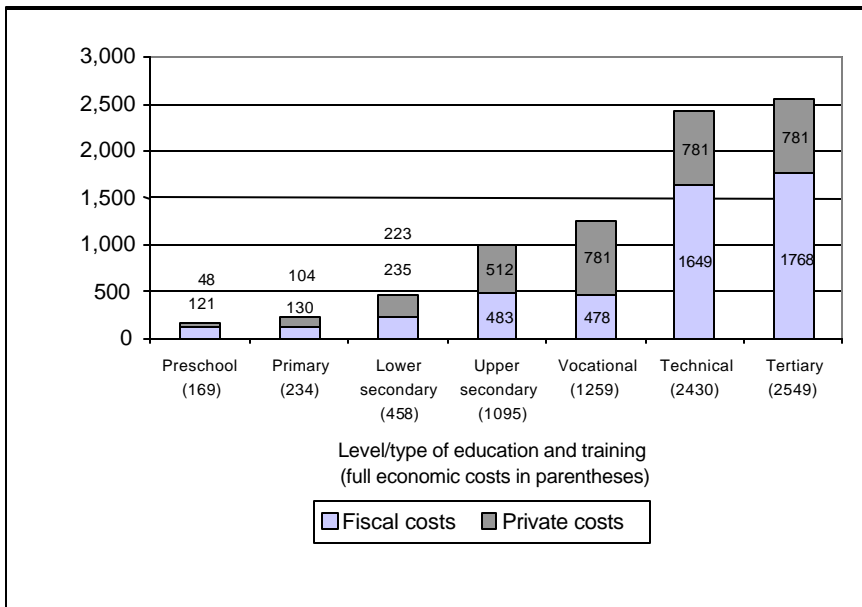
academic or technical), and for different parts of a country (e.g., different provinces).

Meanings and Examples

Most commonly in the present context, the term unit cost means the cost of a school place occupied by a single student for one year (Coombs and Hallak 1987, 51). However, this definition says nothing about attendance (i.e., whether pupils actually occupy the spaces allocated to them). Nor does the definition say anything about the quality of teaching or learning. Pursuit of qualitative dimensions might suggest a need to calculate the costs of changes in knowledge, skills and/or attitudes rather than mere provision of school places. Moreover some analyses focus on the unit costs per graduate, which requires inclusion of repetition and dropout rates in the calculation.

Figure 2 provides an example of the ways in which unit costs may be portrayed by giving data from Viet Nam. This particular figure is especially valuable because it shows private costs as well as public ones (which are here described as fiscal costs). The general progression in unit costs, from preschool to tertiary, matches patterns in other countries. Among the striking

Figure 2: Annual Costs Per Student, by Level, Viet Nam, 1994
(Dong '000)



Note: Data refer only to public institutions.

Source: World Bank 1997d, 68.

Table 9: Estimated Recurrent Unit Costs by Level, PRC, 1994

	Recurrent unit cost to govt. (Yuan)	Personnel (%)	Total recurrent unit cost (Yuan)	Personnel (%)
General elementary	238	92.3	340	73.8
Vocational secondary	842	80.6	1,307	57.5
General secondary: Junior	451	88.7	645	69.0
General secondary: Senior	883	84.2	1,296	63.3
Apprentice school	1,188	63.3	1,912	48.9
Specialized secondary	1,901	66.1	2,588	54.7
Regular higher education	5,048	59.1	6,022	54.9

Source: Jiang 1996, 29.

Table 10: Unit Recurrent Costs per Full-Time Equivalent in Higher Education, Viet Nam, 1993-1995
(Dong '000)

Field of study	1993	1994	1995
General	997	1,466	1,765
Agroforestry	2,191	3,095	5,201
Medicine	1,959	2,792	2,860
Economics and Law	783	1,008	901
Art, Culture, and Sport	1,632	2,469	2,993
Teacher Training	1,431	1,891	1,866
Science and Technology	1,272	2,078	1,577
All higher education	1,289	1,818	1,812

Source: World Bank 1997d, 49.

features of the Viet Nam data are that unit costs in technical education are almost the same as those in tertiary education. Similar patterns have been found in Lao PDR (Mingat 1996). Table 9 provides another example with data from the PRC. Estimated total recurrent unit costs in vocational secondary education were 4.3 times the level in general elementary education, while the figure for regular higher education was 17.7 times the figure for general elementary education.

Table 10 takes levels of disaggregation one stage further by indicating unit costs per full-time equivalent (FTE) student in various specializations of higher education in Viet Nam. The statistics show fluctuations in the relative proportions over the three-year period, though consistently show agroforestry as having the highest unit costs, and economics and law as having the lowest. Differences reflected the sizes and locations of institutions as well as equipment and other needs. The fact that teacher training had higher unit costs than science and technology is unusual, and reflects questionable formulas for allocating government funds (World Bank 1997d, 46-51).

Table 11, taking another example from the PRC, shows unit costs in primary and junior secondary education in eight provinces. As in most other countries, junior secondary has substantially higher unit costs than primary education. This chiefly reflects the fact that junior secondary teachers are paid higher salaries, though also reflects differences in buildings and learning

Table 11: Unit Costs by Level and Province, PRC, 1995
(Yuan)

<i>Province</i>	<i>Primary</i>	<i>Junior secondary</i>
Beijing	1,015	1,923
Shanghai	1,435	1,903
Guangdong	704	1,236
Zhejiang	679	970
Sichuan	343	592
Shaanxi	261	589
Jiangxi	284	441
Guizhou	186	385

Source: Min 1997, 150.

materials. Even more striking are the interprovincial variations. Average unit costs at the primary level in Beijing are over five times the costs in Guizhou.

Planners may also wish to know the unit costs of institutions of different types at the same level. In Nepal, for example, unit recurrent costs of government-aided secondary schools in 1992 were NRs2,098 compared with NRs1,545 in community secondary schools and NRs6,008 in the private sector (World Bank 1994b, 58).

Goals, Determinants, and Manipulable Variables

An initial question for policymakers who have reviewed statistics such as those presented in Tables 9-11 is whether they should seek to hold unit costs constant, decrease them, or increase them. Unit costs can also be described as unit expenditures. The authorities in the PRC might consider, looking at Table 11, that expenditures in Guizhou Province should be raised rather than lowered, in order to reduce regional inequalities. Much depends on the policymakers' dominant goals – and, of course, on available resources.

Further scrutiny of statistics such as those in Tables 9-11 would require distinction between recurrent and capital costs. Education remains a strongly labor-intensive activity, especially at the lower levels. Despite efforts in some contexts, only in unusual circumstances have teachers even partly been replaced by machines. Because of that, as illustrated by Table 9, the proportion of salaries in unit costs is typically very substantial. Capital costs, in the form of buildings and equipment, tend to become more visible at higher levels of education. The chief explanations for greater unit costs at higher levels of education and in some specialties are that the teachers are paid more, class sizes tend to be smaller, and buildings and equipment are more elaborate, particularly in some specialties. In Lao PDR, for example, teachers' salaries formed 83.8 percent of public recurrent costs at primary level, but 80.6 percent at junior secondary level, 35.5 percent in teacher education, 34.1 percent in higher education, and only 28.7 percent in technical/vocational education (Mingat 1996, 16).

These remarks already indicate some manipulable variables. Since teachers' salaries are generally the largest single item in education expenditures, they are a sensible place to begin analysis. In Singapore, teachers are

considered to be well paid in comparison with other professions, especially at the starting point on the salary scale. However, teachers in Cambodia are paid so poorly that an official salary is inadequate even for one person to live on, let alone a whole family. That is not to say that the Government of Singapore should leap to reduce teachers' salaries and that the Cambodian Government should immediately increase them. The authorities in Singapore are not under strong pressure to reduce salaries because they have regular budget surpluses; and in any case, they consider it important to maintain the attractiveness of the teaching profession in comparison with other occupations. The Cambodian Government, by contrast, would certainly like to increase teachers' salaries; but that move would create a massive wage bill which would in turn demand mechanisms for increased generation of revenue and/or redistribution of existing expenditure, which are not easy to accomplish.

These remarks also raise questions about cross-national analysis of unit costs. Such analysis highlights the fact that a primary school child in Singapore is the beneficiary of vastly more abundant resources than a child in Cambodia, which in turn may provide leverage for international aid of various sorts. However, beyond such observations, cross-national analysis of unit costs may be of limited value. Similar comments apply to cross-national tables on unit expenditures on education as a proportion of per capita GNP (see e.g., Tan and Mingat 1992; UNESCO 1998). Such tables may provide another indicator of the relative emphasis that governments place on education; but it may be arguable that education in poor countries is underresourced even when it receives per unit the same proportion of GNP per capita as in rich countries.

If policymakers and planners find that they must, for fiscal or other reasons, largely take teachers' salaries as fixed, they may still seek to secure maximum benefits from teachers by encouraging high productivity (Buckland 1998; Mehrotra and Buckland 1998). This point links to issues of morale, support, supervision, and availability of complementary inputs such as books and teaching materials. Planners may also adjust unit costs by varying the number of hours teachers are expected to work. Table 12 reports data on teachers' weekly hours of instruction in public primary schools in 77 countries. The statistics are based on official loads, or, in some cases, reported actual average loads. Regional aggregates are quite similar, but within regions are some striking variations. In the Asian and Pacific region, the range is from 18.0 hours in Japan to 36.0 hours in Bangladesh.

Such figures may be supplemented with statistics on the duration of school years. Table 13 shows data on the official numbers of class hours during the first four years of public primary education in 10 Asian and Pacific countries. Again the variation is striking, with the Philippines at the top and Japan with the Republic of Korea at the bottom. This contrast is especially striking given the reputations that Japan and the Republic of Korea have for much greater achievements in teaching and learning than the Philippines.

Realizing that these figures tell only part of the story, the next question for planners would be precisely what the teachers do in the times they are officially working and in the hours available each year. Planners would also want to know how far the official hours translate into actual hours, and how far they are

Table 12: Primary School Teachers' Weekly Hours of Classroom Teaching, by Country and Region

<u>Sub-Saharan Africa</u>	<u>North and South America</u>	<u>Middle East and North Africa</u>			
Angola	26.0	Argentina	22.5	Algeria	30.0
Benin	28.0	Belize	27.5	Egypt ^a	24.0
Burkina Faso	30.0	Brazil ^a	25.0	Iran	28.0
Cameroon	27.5	Canada ^a	41.0	Kuwait	20.0
Chad	25.0	Chile	30.0	Libya	20.0
Congo	27.0	Costa Rica	20.0	Oman	17.0
Côte d'Ivoire	30.0	Cuba	25.0	Qatar	32.0
Ghana	22.5	Ecuador	25.0	Saudi Arabia	18.0
Guinea	30.0	Haiti	20.0	Syrian Arab Rep.	30.0
Madagascar	23.0	Honduras	25.0	Tunisia	25.0
Mali	26.5	Mexico	20.0	Turkey	18.0
Mauritania	30.0	Nicaragua	25.0	U. Arab Emirates	34.0
Sudan	24.0	Panama	26.5	<i>Average</i>	24.7
Swaziland	29.0	Paraguay	20.0		
Togo	28.0	Peru	30.0	<u>Western Europe</u>	
Tanzania	16.0	Uruguay	20.0	Austria	20.0
Uganda	22.0	Venezuela	25.0	Denmark	18.7
Zaire	27.0	<i>Average</i>	25.1	France	24.0
Zimbabwe ^a	29.0			Germany	26.5
<i>Average</i>	26.3			Italy	22.0
		<u>Central Europe and Former Soviet Union</u>		Luxembourg	23.5
<u>Asia and Pacific</u>		Belarus	27.0	Malta	27.5
Afghanistan	24.0	Bulgaria	20.0	Norway	22.5
Australia	23.0	Croatia	19.0	Portugal ^a	35.0
Bangladesh	36.0	Czech Republic	23.0	Spain	25.0
PRC	19.0	Hungary	20.0	<i>Average</i>	24.5
Japan	18.0	Poland	18.0		
Korea, Rep. of	26.5	Slovakia	22.0		
Lao PDR	25.0	Uzbekistan	14.0		
Myanmar	25.0	Former Yugoslavia	24.0		
Philippines	31.5	<i>Average</i>	20.8		
Thailand	25.0				
<i>Average</i>	25.3	<i>Average for 77 countries:</i>	24.8		

^a Hours devoted to other education activities are also included.

Source: Amadio 1997, 3.

Table 13: Official Class Hours during the First Four Years of Primary Education

<u>Country</u>	<u>Grade 1</u>	<u>Grade 2</u>	<u>Grade 3</u>	<u>Grade 4</u>	<u>Total</u>
Philippines	1,000.0	1,000.0	1,133.0	1,200.0	4,333
New Zealand	1,000.0	1,000.0	1,000.0	1,000.0	4,000
Australia (average)	1,000.0	1,000.0	1,000.0	1,000.0	4,000
Malaysia (estimate)	902.0	902.0	902.0	963.5	3,670
Singapore	893.0	893.0	893.0	893.0	3,572
Viet Nam	840.0	840.0	840.0	840.0	3,360
Sri Lanka	760.0	760.0	760.0	1,045.0	3,325
Indonesia (estimate)	570.0	570.0	962.5	1,013.0	3,116
Japan	637.5	682.5	735.0	761.3	2,816
Korea, Republic of	506.5	544.0	589.0	612.0	2,252
<i>Average</i>	810.9	819.2	881.5	932.8	3,444

Source: Amadio 1997, 6.

eroded by absenteeism and by noneducation activities. Some information on these matters is available in some countries, though data have not been systematically compiled in cross-national formats comparable to Table 12. Nevertheless, these observations make the point that planners have variables that can be manipulated.

Another important variable is the pupil/teacher ratio. Table 14 shows a wide range in pupil/teacher ratios at the primary level. According to these figures, the average in the PRC was only 22 but in Bangladesh it reached 63. Pupil/teacher ratios in the PRC are even lower at the junior secondary level, standing at just 15:1 in 1991. However, the PRC Government raised pupil/teacher ratios as the 1990s progressed. Between 1991 and 1998, the primary school pupil/teacher ratio improved from 22:1 to 14:1 (PRC 2000, 53). An increase in pupil/teacher ratios is one way to permit an increase in teachers' salaries, which is a goal of the PRC Government.

The question about the optimal size of classes does of course have a pedagogical dimension as well as a financial one. Research does not show a strong or consistent correlation between class size and student learning within the range 25-40 pupils (Bishop 1989, 73-4), and technical criteria might therefore encourage policymakers to opt for the upper end of that scale. However, few people would advocate pupil/teacher ratios of the scale evident in Bangladesh. Moreover, in all contexts other factors must also be considered in decision making, including teacher morale, which tends to diminish as class sizes grow. Similar remarks apply to such arrangements as double-shift schooling. Research does not indicate that single-shift schools necessarily produce better student learning than double-shift schools; but political forces arising from public perceptions are also important factors in policy making (Bray 1992b).

Planners in some systems should also look carefully at the number of nonteaching staff at different levels in education systems. Returning to the figures for Lao PDR cited above, one reason why the proportion of recurrent expenditures consumed by teachers was not higher was that institutions had

Table 14: Primary School Pupil/Teacher Ratios and Teachers' Salaries as a Multiple of Per Capita GDP in Selected Developing Member Countries, Around 1992

<i>Country</i>	<i>Pupil/Teacher ratio</i>	<i>Teachers' salary as multiple of per capita GDP</i>
Bangladesh	63:1	3.2
Bhutan	31:1	4.9
China, People's Republic of	22:1	1.3
India	48:1	3.3
Indonesia	23:1	2.7
Lao People's Democratic Republic	30:1	1.7
Nepal	39:1	3.2
Pakistan	41:1	4.0
Philippines	34:1	1.8
Sri Lanka	29:1	1.3

Source: Chuard and Mingat 1996, 5.

many nonteaching staff. At the primary level, they consumed only 9.0 percent of the public recurrent budget, but in technical/vocational education they consumed 13.8 percent, while corresponding figures for preschools and teacher education were 16.4 and 35.5 percent (Mingat 1996, 16).

The chief reason for manipulating these and other variables should be to secure for education systems the maximum efficiency in which optimal output is gained from the available inputs. Other tools which planners can consider in such a goal include operating multigrade teaching and biennial/triennial intakes for small schools in remote areas, provision of boarding to make schools larger, and use of self-instructional materials for at least part of the curriculum (Windham 1988; Bishop 1989; Chapman 1993; Kumar 1995). Most of these tools have been widely known for decades, and it might be thought that if they have not been applied already then little scope exists for using them now. Such a remark would have some validity; but even a casual survey shows instances in which proposals that previously fell on infertile ground have taken root when reintroduced because the frameworks of decision making and implementation have changed. In the centrally planned economies of the Soviet Union, for example, cost analysis of the type that was routinely undertaken in capitalist societies was relatively rare. Deyoung and Balzhan (1997, 448), commenting on circumstances in Kazakhstan, highlight the value of an education sector survey in the mid-1990s which was based on concepts that are commonplace in most other parts of the world but that were very different from the traditions that had prevailed locally:

Resource issues ... have been compounded in Kazakhstan by the fact that the costs of delivering well-coordinated and essential education services using some criteria of system-wide efficiency were never determined here or in most former Soviet Republics.

Even in countries that have undergone less dramatic transition, the fact that individuals, cultures, and school systems change means that existing toolboxes may usefully be reviewed to see if tools can be found to improve efficiency. Taking the example of change in education systems, societies, which at one point in history aim to reach remote populations and get children into school by offering boarding places may find at a subsequent point in history that populations have grown, enrollment rates have risen, and large boarding schools could usefully be replaced by smaller day schools which are closer to pupils' homes.

Questions should also be raised about the cost-effectiveness of building designs. To many casual observers, the physical form of a school is the most visible and is therefore taken to be of great importance. However, studies of the effectiveness of teaching and learning indicate that once basic needs are satisfied, further investment in construction is unlikely to repay strong dividends in improved teaching and learning. The portfolios of education architects now contain many designs that can achieve clean, safe, bright, and well-ventilated classrooms at reasonable cost. Community decision making does not always lead to the best designs and to maximum cost-effectiveness; but experience in

many countries has shown that costs can be kept down by making good use of local materials and community inputs.

Two final remarks make a link back to the enrollment rates highlighted earlier. First, planners should in general assume that at the level of basic education, the unit costs of reaching the last few percent as enrollment rates rise will be higher than the unit costs at lower enrollment rates. This is because of the additional costs incurred in reaching marginalized populations (Tsang 1994). Such children may live in remote areas, be handicapped, or be simply unwilling to attend school and thus require persuasion. Second, most Asian systems of education are moving or have moved from mass primary to mass secondary education, and some are moving to mass tertiary education. In general, the financial burden of these moves becomes progressively steeper because the unit costs are greater at higher levels.

Dropout and Repetition Rates

When the focus shifts to the cost of producing graduates from segments of school systems, as opposed to the cost of providing a place for a student for a single year, the significance of dropout and repetition rates comes into focus (Fiske 1998).

Some school systems in Asia have greatly reduced their dropout rates, and have thus improved the efficiency in production of school graduates. Table 15 shows substantial increases in the proportions of Grade 1 pupils reaching Grade 4 in seven countries, while Table 16 provides further details on the situation in Indonesia. In the latter, the number of years wasted by pupils dropping out of primary school is estimated to have been reduced from 1,362,000 in 1976 to 801,000 in 1996. Similar reductions were evident at junior and senior secondary levels, and were complemented by improved promotion rates and thus reduced repetition.

However, the gains in other school systems may not be so impressive, and many systems in the region display considerable inefficiencies resulting from dropout. In Bangladesh, for example, only 52 percent of pupils entering Grade 1 in the early 1990s reached Grade 5 (Loxley 1997, 24). In Nepal the figure was 50 percent, and in Bhutan it was 32 percent. These figures suggested that renewed efforts were needed to reduce dropout rates and

Table 15: Percentage of Grade 1 Pupils Reaching Grade 4, Selected Countries

Country	Around 1980	Around 1990
Bangladesh	32	51
China, People's Republic of	75	89
India	45	68
Indonesia	75	88
Malaysia	99	98
Pakistan	42	52
Philippines	66	79
Sri Lanka	99	99
Thailand	86	91

Source: Mingat 1995, 11.

Table 16: Indicators of Internal Efficiency, Indonesia, 1976 and 1996

	<i>Primary</i>		<i>Junior secondary</i>		<i>Senior secondary</i>	
	<i>1976</i>	<i>1996</i>	<i>1976</i>	<i>1996</i>	<i>1976</i>	<i>1996</i>
Average study time for graduates	6.53	6.38	3.09	3.02	3.10	3.02
Promotion rate	85.20	90.30	89.60	96.20	90.20	93.70
Input-output ratio	0.71	0.81	0.83	0.92	0.84	0.90
Pupil years wasted by repetition ('000)	1,530	954	163	32	180	28
Pupil years wasted by dropping out ('000)	1,362	801	408	216	374	265

Source: Wirjomartono et al. 1997, 26.

improve efficiency. A good starting point for most systems would be publicity campaigns to explain to teachers why the authorities see dropping out as a problem. Dropout rates are influenced by out-of-school factors, such as general poverty and parents' perceptions of the role of schooling in improving the quality of lives. However, in-school factors are also important. Many teachers see dropping out (or pushing out) as a solution rather than a problem, because it is a way to reduce class sizes and remove pupils who are considered troublesome. In some countries, workshops have been used as an effective way to tackle this issue.

The question whether, and to whom, dropping out should be considered a problem or a solution may also apply to repetition. Despite the efforts of many educators and international agencies, repetition rates remain very high in some systems. Often, children are asked to repeat classes for well-intentioned reasons, including maintenance of overall education standards and strengthening the learning foundation for individual children. However, in many cases repetition does not achieve its objectives. Children who have to repeat classes are wasting their lives and raising unit costs for the government and society. Also, children who have to repeat classes are more likely than other children to drop out. A better approach, therefore, is to reduce repetition to a minimum. Such a policy can be justified on education as well as economic grounds (Eisemon 1997).

Technologies – New and Old

New technologies have enormous power to reshape education. Radio and television broadcasts have been widely used in education for some decades; but recent years have brought considerable additional focus on computers and the Internet. The relative cost of computers continues to fall significantly, with the ratio of price to performance falling exponentially. Singapore is among the countries that have made major thrusts in information technology, expecting classroom teachers to make use of computers in their daily lessons. Hong Kong, China is not far behind, and has sent delegations to Singapore to see what can be learned. The Malaysian Government has also embarked on an ambitious program to provide computer literacy for everyone: rich, poor, urban, and rural.

However, policies and strategies are not always straightforward. New technologies can be costly and more complex than they appear at first sight,

and they can create new inequalities. Perraton (1994, 1997) is among the people who have addressed this topic, and has stressed that there is no substitute for school. Children need to learn within a social environment, and there is ample evidence that those who do not go to school are disadvantaged when compared with those who do. It follows that the major role of the various technologies is to strengthen schools, not to provide an alternative to them. Care is needed to ensure that existing school provision is not compromised by the diversion to new technologies of resources much needed by schools.

Perraton and Creed (2000) add that there is a severe shortage of hard data on costs and outcomes in this domain. It is clear, however, that the fundamental nature of costs in the domain of technology is different. Whereas in conventional education by far the greatest costs are in staffing, the use of technology demands significant additional costs for computer hardware and software, and for the management of distance education programs. This has four major consequences:

- Because technology requires different kinds of expenditure, the costs of classroom teaching cannot easily be compared with the costs of technology-based teaching. Planners need to know about scale – such as the number of students listening to a broadcast – before they can calculate a cost per student for each learning-hour.
- Since many technologies demand centralized and up-front investment in the production of teaching materials, their costs may be acceptable only if they have large audiences. A radio program or a piece of computer software that costs \$50,000 to produce is likely to be uneconomic for an audience of 10, but may be more economic for an audience of 100,000. This fact militates against small countries and against countries with decentralized systems.
- Technology can significantly reduce the costs of education only where it substitutes for teachers. If it is used in the classroom to support or enhance teachers' work with no reduction in the quantity or quality of the teaching force (as reflected in their pay), then technology is most likely to increase education costs.
- Technologies seldom stand alone. Computers in school require support from teachers and technicians; most interactive radio projects assume that there is a teacher in the classroom; and effective distance education usually requires student-support systems of various kinds. These human elements do not allow for the economies of scale that mark the use of communication technology considered by itself.

Enlarging on the mix of inputs, Hülsmann (1999, 81) observes that "text is all important." No matter what the medium, he points out, the fact that educators usually start with a text means that its development always forms a core cost. Moreover, text is generally the most cost-effective medium with the lowest cost per student learning-hour. Table 17 shows figures on development costs per student learning-hour by medium for various materials in the

Table 17: Development Costs of Materials per Student Learning-Hour, by Medium, United Kingdom, 1996

<i>Medium</i>	<i>Cost per student learning-hour (£)</i>	<i>Ratio to print cost</i>
Print	500	1
Radio	27,000	x50
	15,000	x30
Television	125,000	x250
	90,000	x180
Video	84,000	x170
	18,000	x36
Audio	17,000	x34
CD-ROM	20,000	x40

Source: Hülsmann 1999, 81.

United Kingdom. Video and audio cassettes have considerably higher development costs, and have often been treated by course developers as add-ons that increase the interest and attractiveness of courses and distinguish them from simple correspondence courses. The development costs of text are the same whether presented in print or on screen, so long as the text is not re-edited in hypertext. If the text is simple, with no further facilities such as search capacities, both learners and providers tend to prefer the printed format. The effectiveness of providing enhancements to text depends on the learning objectives. Increased interactivity increases demand on student time so that, for example, hypertext formats are not always seen as an advantage to students and may also disorient them.

Perraton and Creed (2000) add the point that primary education in most countries, and particularly poor ones, is already a low-cost activity. Because of this, few technology-based projects can be justified on the grounds of cost-reduction. Indeed, most of the dramatic stories about widening access in poor countries rely on low technology. Box 3 mentioned the nonformal programs operated by the Bangladesh Rural Advancement Committee (BRAC), which is one widely noted example of a substantial increase in the supply of basic education. Other oft-cited cases are the "escuela nueva" in Colombia and the EDUCO scheme in El Salvador (Rugh and Bossert 1998; Sawada 1999). These programs have relied on community partnership and alternative management structures rather than on high technology.

Nevertheless, Potashnik and Adkins (1996, 2) argue that pilot initiatives can and should be embarked upon, even in societies with too few textbooks and inadequate sanitation facilities. Their assertion is that the introduction of information and communications technology should not wait until a country has reached some predetermined state of economic or education development:

Even in countries that do not believe in the cost-effectiveness of information technology as a tool for mass education, it is important that they begin acquiring experience using this technology for educational purposes. Otherwise, educators in developing countries will be marginalized in the international dialogue in education. Short-term concerns

for equity at the national level must be balanced by longer-term concerns for equity at the international level.

Moreover, at secondary and tertiary levels of education, unit costs of conventional education are usually considerably greater than at the primary level. This means that new technologies may be attractive as avenues to alternative modes of delivery. Like their counterparts in other regions, many Asian tertiary institutions have made increasing use of distance learning a supplement to, or a replacement for, face-to-face teaching. Since the early 1980s, distance education has expanded rapidly in Bangladesh; PRC; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Pakistan; Philippines; Sri Lanka; Thailand; and Viet Nam (ADB 1987, 1990, 1997c; Dhanarajan 1996; Wong 1993). Eight of the 18 autonomous distance education universities listed by Moore (1992) were located in Asia. Three of them were highlighted as being among the largest in the world, namely the Indira Gandhi National Open University founded in India in 1985, the Sukhothai Thammathirat Open University founded in Thailand in 1978, and the Allama Iqbal Open University founded in Pakistan in 1974. In addition, the PRC has a whole system of radio and television universities, numbering 45 in 1997/98 (Ding 1999, 182). Smaller in absolute scale, but nevertheless of considerable significance, is a distance education system operated by the University of the South Pacific for its 12 member states.

Table 18 presents some comparative figures on unit costs in distance

Box 3: Internal Inefficiency in Education Systems - Lessons from Bangladesh

Many education systems in Asia have low rates of internal efficiency. In Bangladesh, production of a secondary school graduate in theory requires 10 successive years of schooling. A World Bank study (1996, 6) estimated that in government schools this should require a total cost of Tk14,860. However, high dropout and repetition push the actual investment per graduate to 21.3 years and a cost of Tk34,577. This is equivalent to a waste per graduate of Tk19,717 or 132 percent higher than the standard cycle cost. Thus for every taka spent on primary and secondary education, another Tk1.32 were wasted due to system inefficiency.

Dropout rates also substantially raised the unit costs of graduates from government-run nonformal programs. During the early 1990s, in the Integrated Non-Formal Education Program (INFE) the dropout rate averaged 20 percent in two-year programs for children and adolescents, 20 percent for the one-year program for adults, and 5 percent for one-year preprimary programs. However, the dropout rate in the three-year programs for adolescents offered by the nongovernment Bangladesh Rural Advancement Committee (BRAC) averaged just 5 percent, and was only 2 percent in the children's program. The sharp difference between government and nongovernment schemes appeared to be partly related to differences in teacher training and supervision. BRAC teachers had more training, and their supervisors were in the field more often. In some cases it is worth investing more in education systems to improve their efficiency.

Table 18: Distance Universities in Asia: Cost and Effectiveness Data

<i>Country/Institution</i>	<i>Type of cost</i>	<i>Cost per student</i>		<i>(1)/(2)</i> <i>(%)</i>	<i>Measure used</i>	<i>Rate</i> <i>(%)</i>
		<i>Distance</i> <i>(1)</i>	<i>Conventional</i> <i>(2)</i>			
Thailand: Sukhothai Thammathirat Open University	Average cost per student	B7,023	B49,957	14.1	Percent dropouts	50.0
Pakistan: Allama Iqbal Open University	Average cost per student, 1988 estimate	PRs4,585	PRs20,960	21.9	Mean rate of dropouts for all courses	42.5
China Radio and Television University	Average cost per student, 1981	Y1,000	Y2,000	50.0	Percent graduated in 1982 from 1979 enrollees	69.0
Korea Air and Correspondence University	Total cost per student per year, 1981	\$125	\$1,250	10.0	Percent dropouts after first year of study	50.0

Source: World Bank 1994a, 34.

education and conventional methods for four Asian institutions. In all cases, the unit costs in distance education appear substantially lower than those in conventional institutions. However, these costs are per student rather than per graduate. Dropout rates are generally higher in distance education programs; though, as noted by Hülsmann (1999, 75), many students in distance education are chiefly concerned with the content of specific modules and do not aim to earn degrees.

While policymakers should take seriously the opportunities offered by new technologies and by distance education, they should not be dazzled by them. Again, the words of caution expressed by Perraton and Creed (2000) about the paucity of empirical research on costs and effects should be borne in mind. Needed research would include examination of the relative qualities of the two modes of delivery, and of the labor market outcomes of graduates from distance-education programs. Dhand (1996) has highlighted serious deficiencies in the effectiveness of B.Ed. degrees offered by distance education in India, and it is likely that many of Dhand's remarks find a resonance in other contexts. Moreover, although some technologies appear to reduce unit costs, this is partly because costs have been shifted. Where teaching materials are available on the Internet, the cost of computer time, telephone charges, print, collating, and paper fall on the receiving institution. As conventional printing allows major economies of scale, even after allowing for distribution, the absolute costs of making print material available to any one school may be increased by Internet use. Because schools vary in their wealth, decentralizing expenditure in this way is likely to decrease rather than increase equity between them (Perraton and Creed 2000, 78).

Further, technologies require humans to operate them, which in turn demands investment in training to secure skills and change attitudes. There is little reason to assume that these costs will decline: indeed, the growing complexity of many technologies may mean that they will increase. Also,

human investments are more costly, and somewhat less reliable, than the investments in machines. Thus in many settings the old technologies of exercise books, pencils, and textbooks remain the most important and cost-effective domains for investment, especially at the level of basic education.

Cost Sharing in Education

Changing Frameworks for Policy

The 1980s and 1990s brought a worldwide change of emphasis in the matter of cost sharing and cost recovery in education. This change of emphasis has affected Asia as well as other regions. Policy changes have not been evident in all countries to an equal extent; but the overall thrust of trends is unmistakable.

During the first four decades following the end of the Second World War, the dominant feature of international pronouncements was that public education should be free of charge, especially at the level of basic education. Article 26 of the 1948 United Nations Declaration of Human Rights stated that:

Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages.

The 1959 Declaration on the Rights of the Child stated that:

The child is entitled to receive education, which shall be free and compulsory, at least in the early stages.

And Article 13 of the 1966 International Covenant on Economic, Social and Cultural Rights declared that:

- (a) Primary education shall be compulsory and available free to all.
- (b) Secondary education in its different forms, including technical and vocational secondary education, shall be made generally available and accessible to all by every appropriate means, and in particular by the progressive introduction of free education.
- (c) Higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular by the progressive introduction of free education.

The chief justification was that education was a major route for social mobility, and the possibility of poor people being excluded from education by fees was considered inequitable.

However, Article 28 of the 1989 Convention on the Rights of the Child brought a subtle shift. The Convention indicated that signatory states would:

- (a) Make primary education compulsory and available free to all;

- (b) Encourage the development of different forms of secondary education ... make them available and accessible to every child, and take appropriate measures such as the introduction of free education and offering of financial assistance in the case of need;
- (c) Make higher education accessible to all on the basis of capacity by every appropriate means.

Particularly obvious is the shift of philosophy concerning point (c). Education is still generally accepted as a public good that can benefit societies as a whole as well as individuals (Levin 1987; Solmon and Fagnano 1995), but especially in higher education, a general worldwide swing of opinion now favors fees, supported as necessary by loans and other mechanisms to protect the poor (Ziderman and Albrecht 1995; Tilak 1997a, 2000; Task Force on Higher Education and Society 2000).

Arguments in favor of fees at the tertiary level are partly based on the substantial private benefits that accrue to tertiary graduates and on the fact that tertiary education has high unit costs that cannot easily be borne solely by governments. Arguments favoring fees are also based on concern for equity. Among tertiary enrollments, students from rich families always form a much larger proportion than students from poor families, and it is widely considered unreasonable to subsidize rich families when that measure will reduce the resources available for allocation to the poor. It is of course recognized that students from poor families also study in tertiary institutions, and that proportions of such students should be increased. However, since tertiary graduates in general receive greatly enhanced lifetime earnings, it is argued that even the poor can finance their studies through loans that can later be repaid.

The cost and equity arguments are to some extent valid in secondary education, and can also be used to justify cost recovery at that level. However, unit costs to government are lower at the secondary level, and enrollment rates across socioeconomic groups are usually more balanced. These particular arguments are therefore less powerful at the secondary level.

At the primary level, the arguments are even more difficult to sustain. Unit costs are generally lowest at this level. In countries with low enrollment rates, school populations are likely to contain more children from middle-income and rich groups than from poor groups; but since all governments claim to wish to attract the poor to primary school, they are unwilling to discourage enrollments through imposition of fees. Moreover, in systems in which enrollments approach universality, fee-free education is likely to give greater government resources to poor families than to rich ones, simply because poor families are likely to have larger numbers of children than rich families. In addition, evidence exists from some settings (see e.g., Behrman and Knowles 1999) that where fees are imposed, they particularly discourage the school attendance of girls.

Political Forces and Budget Constraints

The above arguments would seem to favor charging fees for tertiary education to permit the redistribution of resources to the poor. One way to serve the poor

better, it has been argued, is to place greater proportions of government resources in the basic education sector (Tan and Mingat 1992; Colclough with Lewin 1993; Penrose 1993; World Bank 1995). However, political forces may not easily permit governments to demand substantial cost recovery at the tertiary level, especially where university students are familiar with a long legacy of free provision, come from politically well-connected families, and are prepared to make vocal protests. Moreover, even when governments recover some of the costs of tertiary education, it is not always easy to allocate the resources to primary and secondary education rather than to other sectors of public expenditure. And even in situations in which most or all income generated from tertiary fees can be allocated to lower levels of education, the sheer numbers of primary and secondary school students mean that the little money that is made available has to be spread thinly.

Allied to these matters is the acute budget austerity that has hit many governments during recent decades and that is unlikely to be greatly alleviated during the coming decades. The economies of many low-income countries have suffered severely from natural disasters, structural weaknesses, and external debt; and stagnation or decline in government revenues has been

Box 4: Fees and Cost Sharing in Nepal

The Government of Nepal, like governments in many other countries, has favored fee-free schooling in order to improve equity and access for the poor. At the secondary level, implementation of the policy commenced in 1992. However, abolition of fees in public schools has not had the desired effect. Since the Government was unable to give schools the resources they needed, institutions have been forced to demand all sorts of substitute payments. In many cases, whereas in the old system the burden of fees was spread over the year, the replacement payments are demanded as single lump sums. As noted by Bajracharya et al. (1997, 29):

The irony is that people were paying nominal fees spread over the twelve month period to schools and now as a result of free education they have to pay substantially more and in one installment. ...[Payments are demanded] from everybody irrespective of economic condition. This raises a serious question of equity in education.

A further problem is that communities have been unable to contribute adequately to education, not only because of poor economic conditions but also as a result of what Bajracharya et al. describe as inappropriate government policies that have discouraged contributions. And since the public schools, partly as a result of these policies, have become so starved of resources, many parents have abandoned them for the private sector where quality is better.

At the university level, ironically, fees are lower than in secondary schools. University fees have not been raised to keep abreast of inflation, and they do not reflect the cost of education programs. The proportion of students (or their families) who could afford to pay fees at university is greater than at the secondary level. A strong case exists for raising fees at the university level, accompanying the measure with loans and/or grants to maintain access for the poor.

accompanied by continued rapid population growth. The last decade has brought particularly severe economic difficulties to the former and remaining socialist states, but pressures have also been heavy in many capitalist societies. The result of these forces is that although most governments would like to be able to provide fee-free primary and secondary education – and some even enshrine this in their Constitutions – the practical realities of making ends meet require at least some contribution from parents and communities.

Reflecting these realities was the fact that the 1990 World Declaration on Education for All did not include a statement that schooling should be free of charge. Instead, the Final Report of the Conference (WCEFA 1990a, 31) included open discussion of fees; and Article 7 of the Declaration itself (WCEFA 1990b, 7) stressed the importance of partnerships:

National, regional, and local education authorities have a unique obligation to provide basic education for all, but they cannot be expected to supply every human, financial or organizational requirement for this task. New and revitalized partnerships at all levels will be necessary... [including] partnerships between government and nongovernment organizations, the private sector, local communities, religious groups, and families.

A subsequent meeting convened by the United Nations Economic Commission for Africa (1997, 2) emphasized that cost sharing in the form of user charges should be considered only after a thorough examination of other options for financing social services, but nevertheless countenanced cost sharing at all levels of education. In a related vein, the World Bank (1999, 19) has stated that "In principle, fees and other contributions paid by nonpoor beneficiaries could free up public resources for targeting to the poor."

Forms of Cost Sharing

The most obvious form of cost sharing is in fees (sometimes called levies or contributions) paid by the consumers of education services. Fees may be determined at the government level, which is particularly common in tertiary education, or at the school level.

Some education institutions also gain income from factories, businesses, and other enterprises. This was especially common in communist societies during the period of central planning, when factories were seen as part of the social fabric of their localities. The advent of market economies has required enterprises to pay more attention to profits, and in many instances reduced their willingness to contribute to schools. However, even in long-standing capitalist societies examples of enterprises contributing to schools may easily be found. Martin (1996) gave examples of corporations in the Philippines that have become part of an adopt-a-school program. In Manila, three elementary and two secondary schools have benefited, receiving inputs from an oil refinery, a match manufacturer, a detergent company, and a large multinational hamburger outlet. In Singapore, banks, supermarkets and other companies

have donated cash and goods to schools, and have been able to claim tax relief on these donations from the Government.

A third form of cost sharing may involve communities. Such communities may be of many kinds, including ones based on geographic proximity, religion, ethnicity, and race. In several countries of the region, community financing reaches significant levels. For example:

- In Bhutan in 1998, 115 community primary schools operated in parallel with 128 fully government primary schools and 42 government junior high schools with primary sections (Bhutan 1999, 25).
- In the PRC in 1994, 32.4 percent of primary teachers, and 7.4 percent of lower secondary teachers, were "minban" personnel, most of whom were employed by collectives and village communities (PRC 2000, 55).
- In Bangladesh, government primary schools constituted only 48.7 percent of all formal primary schools in 1993. Nongovernment schools, of which the majority were operated by villages and other communities, and some of which were not registered with the Government, formed 22.2 percent; and the remainder were Islamic madrasahs (World Bank 1996, 29).
- In Nepal, 18 percent of secondary schools in 1991 were operated by communities with little or no support from the Government (World Bank 1994b, 2, 4).

Linking back to the point about religious diversity made at the beginning of this booklet, religious bodies in the Asian and Pacific region are involved in education to greatly differing extents. Islamic communities are prominent sponsors of schools not only in Bangladesh but also in Indonesia and Pakistan, while Christian communities are prominent sponsors in such countries as the Philippines and Vanuatu. Buddhist, Hindu, and other religious communities also play major roles in some settings.

When it works well, community financing can spread the burden of resourcing education so that it does not rest solely with either governments or parents, while community financing can also promote local interest in schools. However, governments commonly view community financing with ambivalence because it can also exacerbate regional and social inequalities, and does not always operate efficiently (Bray 1996b; Bray with Lillis 1988). Partly for these reasons, the PRC Government aims to phase out community employment of teachers. Between 1994 and 1998 the number of community-employed teachers was reduced significantly, though the reduction was offset in some parts of the country by an increased number of substitute teachers employed on comparable terms (PRC 2000, 56). Moreover, in other systems communities have been given greater rein than before. In Cambodia, for example, communities used to be prohibited from employing their own teachers, but this has been permitted since 1991.

Alternatives to Cost Sharing

The chief alternative to cost sharing is a system of taxation that generates sufficient revenue for the government to pay for services. Of course even in such a system, society, which includes the consumers of services, still ultimately pays for the costs incurred; but the payment is indirect rather than direct.

Table 19 provides some figures on the scale of central government tax and nontax revenues in selected countries. The fact that it shows figures only for central governments is a weakness; but the table is nevertheless useful. In this sample of countries, the average of both tax and nontax revenue formed a larger share of GDP in 1995 than in 1980. However, the capacity and/or

Table 19: Central Government Revenues as a Percentage of GDP, Selected Developing Member Countries

Country	Tax revenue		Nontax revenue		Total revenue	
	1980	1995	1980	1995	1980	1995
Bangladesh	7.7	—	2.9	—	10.6	—
China, People's Republic of	—	5.7	—	4.6	—	10.3
Indonesia	20.2	16.4	1.8	6.2	22.0	22.6
Korea, Republic of	15.3	17.7	8.0	6.5	23.3	24.2
Malaysia	23.4	20.6	4.4	6.6	27.8	27.2
Mongolia	—	20.3	—	5.0	—	25.3
Nepal	6.6	9.1	2.9	4.3	9.5	13.4
Pakistan	13.3	15.3	5.5	7.2	18.8	22.5
Papua New Guinea	20.5	18.9	2.8	2.3	23.3	21.2
Philippines	12.5	16.0	5.9	4.9	18.4	20.9
Singapore	17.5	17.2	4.0	4.6	21.5	21.8
Sri Lanka	19.1	18.0	5.4	10.8	24.5	28.8
Thailand	13.2	17.1	6.6	7.4	19.8	24.5
<i>Average</i>	15.4	16.0	4.6	5.9	20.0	21.9

— Data not available.

Note: Figures in italics are for years other than that specified.

Source: World Bank 1997e, 240-1.

Table 20: Regional Breakdown of Taxation Revenue by Type of Tax (percentage of GDP)

Country Type/Region	Average GNP per capita (\$)	Total taxes	Income taxes	Domestic taxes	Foreign taxes	Social security	Wealth & property	Other
Industrialized	13,477	31.2	11.0	9.4	0.7	8.9	1.1	0.1
Developing	1,241	18.2	5.5	5.2	5.1	1.3	0.5	0.5
Africa	621	19.5	6.7	4.8	6.8	0.4	0.4	0.4
Asia	743	14.8	4.5	4.5	5.5	0.0	0.2	0.2
Europe	3,361	21.9	5.8	6.9	2.8	5.1	1.1	1.1
Middle East	2,339	14.7	4.8	2.3	4.2	1.2	1.5	1.5

Notes: Figures are weighted averages for the three years closest to 1987 for which data were available. Income taxes include individual and corporate taxes. Domestic taxes include general sales taxes and excises. Foreign taxes include import and export duties.

Source: Burgess 1997, 316-7.

Box 5: Locally Imposed Taxes for Education in the PRC

In the PRC, local governments are permitted to raise additional resources for education through various means of taxation. Local governments are granted considerable latitude in the nature and scale of these taxes. Lewin and Wang (1994, 73) give the following example from Ansai County in Yan'an Province. Resources have been raised by collecting:

- Y2 from each farmer each year;
- Y1 from each government employee earning less than Y69 a month, and Y1.50 from employees earning Y70-100;
- 0.5 percent of the sale value from collective enterprises and private businesses;
- Y2 for each square meter of construction from the state and collective organizations that build apartments or offices with two or more floors for themselves;
- Y1 for each square meter used for production or business from oil, coal, and other industries; and
- 5 percent of the maintenance and equipment fund of buildings in urban areas.

willingness to generate income from taxation was lower in some countries than in others. The PRC, for example, had moved to a market economy, and did not have the type of taxation infrastructure of more established capitalist economies. Similar comments apply to Lao PDR, Mongolia, and Viet Nam (Rana 1993, 12), though the figure for Mongolia in Table 19 suggests that in that country the capacity of the taxation system had been considerably increased by 1995.

To facilitate understanding of broader patterns, Table 20 shows aggregates by country type and region. Taxation in industrialized countries formed a considerably larger proportion of GDP than in developing countries, while at 14.8 percent, Asia was almost the lowest, next to the Middle East. Income taxes were the lowest in Asia, and were less than half the proportion in industrialized countries. More money was raised by foreign taxes, while social security, wealth, property, and other taxes were almost negligible.

Burgess has argued that taxation is the only sustainable way to finance basic education in less developed countries. Aid, debt, and inflation finance, he pointed out (1997, 309), are not sustainable and may ultimately reduce financing capacity. Contributory social security schemes are not a promising source of additional funding for most developing countries, and Burgess argued (p.342) that the bulk of additional finance should come from broad-based domestic indirect taxes such as value-added taxes. Direct taxes, he suggested, are less suitable, both because of difficulties in collection and because of their limited scope for achieving redistribution.

Yet even when governments have the capacity to raise substantial revenues through taxation, for political and/or economic reasons they are not always willing to do so. In such cases, governments may still insist on cost sharing. Particularly at the level of tertiary education, governments may

consider it appropriate for users to pay directly for at least some of the costs of their studies. They may also find that individuals are more willing to do this than to countenance general increases in taxation.

A compromise policy, which at least allows taxpayers to know precisely where their money is going, is to impose taxes designated specifically for the education sector. This is common practice in the PRC, where many local governments have taxed enterprises either on their total volume of business or on their profits (Lewin and Wang 1994, 29). Local governments may also raise revenue from farmers, government employees, and owners of buildings (Box 5).

Cost Recovery and Student Support in Tertiary Education

Fees

In 1984, the World Bank presented statistics on recurrent expenditures met from tuition fees in different countries. It indicated that when the document was written, in only 20 countries, areas, or provinces of the world did tuition fees account for over 10 percent of recurrent expenditures (World Bank 1994a, 41). The scale of fees was not related to the incomes of countries, but there was variation across regions. Sub-Saharan Africa, North Africa, the Middle East, and Eastern Europe had little or no tradition of cost recovery in public higher education. However, public-institution fees exceeded 10 percent of recurrent expenditures in one out of five Latin American countries and in half of the Asian countries in the sample.

Table 21: Sources of Recurrent Income of Selected Indian Universities, 1989/90-1991/92
(percent)

<i>Institution</i>	<i>Govt. grants</i>	<i>Fees</i>	<i>Printing Press</i>	<i>Farm</i>	<i>Loans</i>	<i>Endowments</i>	<i>Misc.</i>	<i>Total</i>
<i>Central Universities</i>								
Aligarh Muslim	97.4	1.1	0.0	1.0	0.2	0.0	0.3	100.0
Banaras Hindu	89.4	0.8	0.6	7.2	0.0	0.4	1.6	100.0
Hyderabad	94.7	1.9	0.0	0.7	0.0	0.0	2.6	100.0
Jawaharlal Nehru	92.7	1.0	1.0	2.0	0.7	0.0	2.6	100.0
Pondicherry	86.7	8.3	0.5	0.3	0.0	0.0	4.1	100.0
Viswa Bharati	97.9	0.5	0.2	0.7	0.0	0.0	0.7	100.0
<i>Average</i>	93.2	1.2	0.4	3.7	0.1	0.1	1.3	100.0
<i>State Universities</i>								
Bombay	11.5	39.0	28.3	2.2	4.1	0.0	15.1	100.0
Calcutta	91.2	7.5	0.0	0.1	0.0	0.3	0.8	100.0
Karnataka	53.5	5.5	1.8	0.1	12.7	15.1	11.3	100.0
Kerala	58.3	30.1	4.5	1.2	1.9	0.0	4.0	100.0
Madras	15.7	46.8	1.0	0.2	4.5	0.4	31.4	100.0
Mohanlal Sukhadia	91.3	8.1	0.0	0.3	0.0	0.0	0.2	100.0
Utkal	59.2	22.1	0.0	0.5	2.2	0.7	15.3	100.0
<i>Average</i>	54.3	21.2	5.3	0.6	4.3	5.3	9.0	100.0

Source: Tilak 1997b, 11.

For analysis of some countries, disaggregation of national averages is necessary. Table 21 shows different fee incomes in selected universities in India. Fee incomes in the sample of central universities averaged below 2 percent of total income, but in state universities they averaged 21.2 percent. Among the state universities shown, the range was from 8.1 to 46.7 percent.

As the 1990s progressed, in some parts of Asia fees increased further. In Hong Kong, China, where the authorities had imposed uniform fees across all public institutions, they decided in 1991 to raise fees from 12 percent of recurrent costs (which was already a substantial increase from the situation in the mid-1980s) to 18 percent in 1997. Fees have also greatly increased in the PRC. Many institutions have admitted private (self-sponsored) students at higher fees than students paid for by the state, and in 1995 the average fee in many institutions was between 25 and 30 percent of recurrent costs (Zhang 1997). The Government sought to standardize the situation, setting a guideline that in 1997 fees should meet 20 percent of recurrent costs (World Bank 1997a, 47). In Singapore, differential fees were charged by academic discipline. In arts and social sciences, fees were increased from 10 percent of the recurrent cost in 1986/87 to 20 percent in 1992/93. The Government has declared its intent to raise fees further to 25 percent (Selvaratnam 1994, 81-3), though it has also decided to set uniform fees rather than divergent ones for individual clusters of disciplines.

Grants and Loans

People who oppose increases in fees usually do so mainly on the grounds that fees are likely to exclude individuals from the poorest segments of society. Part of the response by policymakers has been to provide an array of support schemes, including grants and loans. Grants may be linked not only to the incomes of applicants but also to academic performance and to efforts to attract students to particular types of training. Loan schemes usually contain a substantial proportion of hidden grants.

Among the international authorities on student loans are Woodhall (1987, 1991, 1997) and Ziderman and Albrecht (1995). These authors have highlighted a wide range of models, of which the two main types are mortgage loans and income-contingent loans. Mortgage loans are more common, and require students to repay sums over a specified period, usually with fixed monthly payments. Income-contingent loans provide faster avenues for repayment by high-income graduates, and safety nets for low-income graduates, by linking the size of repayment to graduates' incomes. Most loan schemes provide for living expenses as well as tuition fees. Some loan schemes are administered by government agencies, while others are operated by commercial banks.

The hidden grant elements of loans take the form of subsidized interest rates, leniency for low-income students, and tolerance of default on repayment. Table 22 shows figures compiled by Ziderman and Albrecht of hidden subsidies and government losses in 20 countries. The hidden grant through subsidized interest rates ranged from 13 to 93 percent of the loans, while average loan recovery ratios varied substantially. In addition, loan schemes

Table 22: Hidden Subsidies, Government Losses, and Average Loan Recovery Ratios on Selected Student Loan Programs

<i>Economy</i> ^a	<i>Nominal interest rate (%)</i> ^b	<i>Real interest rate (%)</i> ^c	<i>Max. or projected repayment period (years)</i> ^d	<i>Hidden grant to students (% of loan)</i> ^e	<i>Govt. loss with default (%)</i> ^f	<i>Govt. loss with default & administrative costs (%)</i> ^g	<i>Average loan recovery ratio (%)</i> ^h	<i>Year</i> ⁱ	<i>Estimates</i>
<i>Mortgage Loans</i>									
Barbados	8.0	4.1	12	13	18	33	67	1988	Default 5%, Administrative 2%
Brazil I	15.0	-35.0	5	91	94	98	2	1983	Default 30%, Administrative 2%
Brazil II	318.0	-14.9	8	62	65	71	29	1989	Default 10%, Administrative 2
Chile	varies	1.0	10	48	69	82	18	1989	Administrative 2%
Colombia I	11.0	-10.6	8	73	76	87	13	1978	Administrative 2%
Colombia II	14.0	3.0	5	29	38	47	53	1985	Administrative 2%
Denmark	8.0	1.6	10	52	56	62	38	1986	Administrative 1%
Finland	6.5	-0.6	10	45	46	52	48	1986	Default 2%, Administrative 1%
Honduras	12.0	-3.0	8	51	53	73	27	1991	Administrative 5%
Hong Kong, China	0.0	-6.3	5	43	43	47	53	1985	Administrative 2%
Indonesia	6.0	-2.3	10	57	61	71	29	1985	Default 10%, Administrative 1%
Jamaica I	6.0	-10.7	9	74	84	92	8	1987	Administrative 2%
Jamaica II	12.0	-5.6	9	56	62	70	30	1988	Default 20%, Administrative 2%
Japan	0.0	-1.4	20	50	51	60	40	1987	Administrative 1%
Kenya	2.0	-6.9	10	70	94	103		1989	Administrative 2%
Norway	11.5	5.6	20	33	33	48	52	1986	Administrative 1%
Quebec	10	5.2	10	31	31	37	63	1989	Administrative 1%
Sweden I	4.3	-3.0	20	61	62	70	30	1988	Administrative 1%
United Kingdom	6.0	0.0	7	26	30	41	59	1989	Default 5%, Administrative 1%
United States	8.0	3.8	10	29	41	53	47	1986	Administrative 2%
Venezuela	4.0	-23.0	20	93	98	108		1991	Administrative 3%
<i>Income Contingent Loans</i>									
Australia	varies	0.0	17	48	52	57	43	1990	Evasion 3%, Administrative 0.5%
Sweden II	varies	1.0	10	28	30	33	67	1990	Evasion 3%, Administrative 0.5%

Notes:

^a Economies with I and II refer to situations where the loan program underwent reform.

^b Nominal interest rate refers only to the rate during repayment.

^c Real interest rates use purchasing power parity formula, where inflation is based on the average of the 1980-1988 period as reported in the *World Bank Development Report*, except in instances noted where a five-year average of inflation was calculated from the data date.

^d The repayment length is the maximum prescribed in the loan, except for the two income-contingent loans where it is the repayment length that is implied by the average income profile of a graduate. This does not include grace periods.

^e The hidden grant percentage is calculated as a discounted cash flow of the student's account, and therefore excludes default and administrative costs.

^f The government loss due to default subtracts the percentage of default from each year of the repayment stream.

^g The loss with default and administrative costs subtracts an annual administrative cost related to outstanding debt each year.

^h The loan recovery ratio is equal to 100 minus government loss with default and administrative costs.

ⁱ Year is the date from which loan information was collected, and from which inflation calculations were made.

Source: Ziderman and Albrecht 1995, 70-1.

may demand substantial administrative costs. These figures demonstrate that loan schemes are much less efficient as a mechanism for recovery of costs than is widely assumed.

In the light of such statistics, much attention has focused on ways to improve the efficiency of cost-recovery schemes. When such a scheme was initiated in 1969 in Hong Kong, China, loans were interest free. However, in 1987 a 2.5 percent charge was placed on loans, and a 1996 report recommended that the authorities should raise this to between 5.8 and 8.5 percent, while simplifying administration (Ernst and Young 1996, 122). Similarly, continued scrutiny of schemes in the PRC is permitting the authorities to plug some of the leaks in the system set up in the early 1990s (Li and Bray 1992; World Bank 1997a).

Institutional Revenue-Earning Schemes

In some countries, institutions have been increasingly required to secure additional funds from other sources. In Mongolia, for example, some schools manage their own flocks of sheep (ADB 1994); in Nepal, schools commonly rent out buildings and use land for other noneducation purposes (Thapa and Singh 1995); and in the PRC, schools run cafeterias and use buildings for discos and other forms of revenue-earning entertainment (Kwong 1996). Tertiary institutions have also been required to generate their own revenues. Table 21 showed, somewhat unusually, an institution in India that reportedly raised 28.3 percent of its recurrent income from a printing press. It also referred to farms and to endowments. Many institutions in the region now solicit donations from their alumni. Many are also encouraging teaching staff and others to undertake consultancy services, while some are moving into direct business ventures.

The scale of revenue obtainable from such sources depends strongly on the general wealth of the societies in which the institutions operate, on the nature of specialties offered by the institutions, and on the frameworks set by governments. Prosperous societies are obviously better able to support such initiatives than impoverished ones, though the irony is that institutions in prosperous societies have in general faced less need to secure independent revenues because their governments have been more able to provide substantial budget allocations. Institutions and individuals specializing in applied science and commerce have more opportunities to market their skills than their counterparts specializing in history or philosophy. Governments can facilitate moves by offering tax exemptions for donations to public institutions.

Viet Nam is among the countries in which higher education institutions have been forced by the escalating cost of living and the inadequacy of revenues from the government to earn independent revenues. Pham and Sloper (1995, 174) have indicated that in 1991, Viet Nam's College of Construction was able to add 28.3 percent to its budget by taking on external contracts. Comparable figures were 22.0 percent for the Foreign Languages University, 11.0 percent for the College of Mining and Geology, 10.5 percent

for the Teachers Training College of Vinh, and 4.2 percent for the Technical Teachers College No.1. Pham and Sloper comment that the scale of such income generation chiefly depends on:

- the product or service that can be provided (which does not always relate to the primary mission of the institutions);
- the entrepreneurial capability and culture within the institution; and
- the state of institutional infrastructure – personnel, organizational and technical – which creates the basis for delivering a desired product or service.

Institutions in urban locations generally have greater opportunities than those in rural areas. However, in Viet Nam rural institutions have been able to generate revenues by raising poultry, producing vegetables, managing restaurants, and tailoring clothes. Critics observe that such activities deflect the staff from their primary missions as specialized providers of higher education. Advocates usually agree, but point out that the activities at least permit the institutions to survive in harsh economic climates.

An example of a very different sort may be taken from Singapore. Although the country has a buoyant economy and a government with a history of budget surpluses, even there the 1990s brought a philosophy that higher education institutions should develop their own sources of revenue and reduce dependence on the Government. In 1991, appeals were launched by Singapore's two universities for newly created endowment funds with a target of S\$1 billion (Selvaratnam 1994, 81). To boost the funds, the Government contributed S\$500 million, and committed itself to matching up to S\$250 million during the following five years if the universities could secure that amount from nongovernment sources.

Privatization of Education

Within the Asian and Pacific region, as in other parts of the world, shifts in the ownership, management and control of education institutions may be observed. In some cases this involves an increased role for governments; but in other cases it involves a reduced role. The latter is more common than the former. This is partly because the balance has shifted so markedly toward public ownership, management, and control during the last few decades, and the pendulum has begun to swing back.

The few places where the government is playing an increased role include settings where the private sector has been dominant and is considered to need regulation and/or support. Macau, China is one such place, though it is idiosyncratic in its long legacy of government neglect and *laissez faire* attitudes toward the private sector (Adamson and Li 1999). Neighboring Hong Kong, China had a much more prominent role for the Government throughout the 20th century, but has also witnessed increased government support for and regulation of the private sector through its direct subsidy scheme for secondary

schools and through subsidies and training for private kindergartens (Government of Hong Kong 1997a, 1997b).

More common, however, have been shifts toward privatization of education. An official ADB document has stated that "Support for the private sector in DMCs is an important part of ADB's operational policy in achieving its strategic objectives" (ADB 1997a, 8). This general philosophy may be appropriate in the economic sphere. In education, however, the role of the private sector is controversial.

Models for Privatization

Privatization, by definition, is a process – an “-ization” – rather than a state; and, as indicated above, the countries of the Asian and Pacific region display a wide range of starting points. The term may also encompass a wide array of models. In some systems, privatization has arisen as a result of deliberate policy; but in others, it is the result of unplanned change. Four major models may be identified as follows (Bray 1998):

- *Transfer of ownership of public schools.* Deliberate transfer of ownership (and, by implication, control) of existing public schools to private hands is perhaps the most striking form of privatization. Such a move is especially radical when it involves a shift from not-for-profit to commercial operation, though this type of change is rare.
- *Shifting sectoral balance without redesignating existing institutions.* This form of privatization occurs through a more evolutionary shift in the balance of types of institution. Thus, the number and size of government schools might be held constant, but the number and size of parallel private schools might be permitted or encouraged to increase. Alternatively, the government sector might expand, but the private sector might expand more. Or the government sector might contract, but the private sector might not contract so much, might remain constant, or might expand.
- *Increased government funding and support for private schools.* Governments may strengthen the private sector by giving financial and other support to private schools. Some governments are experimenting with systems of vouchers, in which families can choose to send children to private schools but meet some or all the costs from a financial allocation earmarked by the government.
- *Increased private financing and/or control of government schools.* In this form of privatization, schools remain nominally under government ownership but the proportion of finance and/or control by nongovernment sources is increased. Governments in some countries have experienced a severe fiscal crisis, and parents and communities have had to increase financial contributions to their schools in order to bridge gaps. In other countries, governments' financial health has remained strong but for ideological and other reasons the authorities have required school principals to be more responsive to the market

place. These are forms of privatization within the government system.

In some countries, the majority of private schools are elite alternatives to public schools. However, in other settings the majority of private schools may be "second-chance" institutions for individuals who have failed to gain places in public schools. Such private schools are commonly more expensive for the students and their parents, but this is not always the case.

Effects of Privatization

Privatization of course has many effects – economic, social, and political as well as educational. The full range of effects cannot be addressed here, though they are examined in other parts of the literature (e.g., James 1993; Cummings and Riddell 1994; Bray 1998; Kitaev 1999). From an economic perspective, a question of major interest is whether privatization is able to increase the efficiency of education systems. Most of the evidence on this matter appears positive, but more research is needed before statements can be completely firm.

Research on this topic has been conducted by Jimenez and colleagues on Colombia, Dominican Republic, Philippines, Tanzania and Thailand (Jimenez et al. 1991; Lockheed and Jimenez 1994). The findings of these studies, which focused on selected core academic subjects in secondary education, are summarized in Table 23. The researchers took care to control for the home background of students and for other effects, though the studies excluded household and other noninstitutional inputs, such as supplementary books, additional tutoring, and endowments. These inputs may be particularly high for

Table 23: Cost-Effectiveness of Private Secondary Schools, Selected Countries, Early 1980s

Country	Indicator of achievement	Ratio of private to public cost	Relative advantage^a	Ratio of relative cost to effectiveness
Colombia	Average mathematics and verbal	0.69	1.13	0.61
Dominican Republic	Mathematics O-Type ^b	0.65	1.31	0.50
	Mathematics F-Type ^b	1.46	1.47	0.99
Philippines	Mathematics	0.83	1.00	0.83
	English	0.83	1.18	0.70
	Pilipino	0.83	1.02	0.81
Tanzania	Average mathematics and verbal	0.69	1.16	0.59
Thailand	Mathematics	0.39	2.63	0.17

^a Proportional gain in achievement score if a randomly selected student, with the characteristics of the average public school student, attends a private rather than public school, holding constant that student's background.

^b F-type schools are authorized to give Ministry of Education examinations. O-type schools are not so authorized.

Source: Lockheed and Jimenez 1994, 7, 9.

private schools, and could therefore be important to the comparison. Nevertheless, on the data that were available, the studies suggested that private schools generally achieved better results at lower costs, and as such were more cost effective than public schools.

However, one study in India seemed to contradict these findings. It focused on primary school mathematics and reading in Tamil Nadu, and indicated that fully private schools were the least cost effective. Government-aided schools were the most cost effective, and fully government schools were intermediate (Bashir 1994, 264; 1997, 153). In contrast, another Indian study on both primary and secondary schools in Uttar Pradesh, produced findings more in line with those of Jimenez and colleagues. The magnitude of findings diverged considerably for junior and senior secondary schools; but in both types of institution private unaided schools were shown to be considerably more cost effective than aided and government schools (Kingdon 1994, 233).

To explain the differences in effectiveness, most authors highlight the importance of management practices. Lockheed and Jimenez (1994, 15) showed that head teachers in private schools generally have more control over school-level decisions that can affect student achievement. This includes selection of teachers, adaptation of the curriculum, improvement of instructional practice, and choice of textbooks. To identify cost factors, Lockheed and Jimenez conducted a small follow-up survey to their main research, in which they paired elite and nonelite private and public schools in each of the countries. This survey did not show dramatic differences in the resources and physical facilities in the pairs of schools, but the private schools appeared to use these inputs more cost effectively.

Several studies have also observed that private schools are less constrained by the conditions of service and accompanying salaries that are mandatory in the public service. In India, for example, many private schools hire teachers with lower qualifications who are less costly but not necessarily less effective than their counterparts in the public schools (Kingdon 1994, 175). Cost-saving patterns are also evident in Japan, where many private schools employ (i) teachers who have retired from the public sector, (ii) women who have been unable to secure career-track positions in large companies or the civil service, and (iii) part-time staff (James and Benjamin 1988, 101).

However, while the research seems on balance to show that private schools are more cost effective than public ones, most researchers still underline the need for caution. Riddell (1993), following careful review of the work not only by Jimenez and colleagues but also by other researchers, stressed (p.384) that "there is no overwhelming conclusion regarding the [cost-effectiveness] advantages of private schools over public schools, notwithstanding statements to the contrary."

Moreover, as noted by Lockheed and Jimenez (1994, 18), the fact that particular samples of private schools might appear more efficient than comparable samples of public schools is not necessarily in itself a strong argument for privatization. First, full-scale privatization would by definition remove some of the advantages which the private schools currently exploit: for example, there would not be enough retired teachers and people seeking part-

time jobs for every school to gain efficiencies to the extent that were previously demonstrated when only a few institutions were seeking such personnel. Second, some management practices can be improved within the public sector: head teachers can be given greater freedom to manage resources and adapt curricula, without their schools necessarily being privatized.

It is also important to address the argument that the existence of private schools helps to improve the efficiency of public institutions. Presenting this argument in one country, a World Bank report (1993b, 193-4) has stated that:

A mixed system of government and private schools will not only reduce the financial burden on public resources, thereby freeing up the education budget to address teacher salary shortfalls, maintenance needs, and other operational improvements, but it will also improve the productivity and quality of public education, as government schools compete with private schools.

Such an outcome is far from generalizable or certain. Much depends on whether private and public schools really do compete, and on the ways in which managers of public schools respond to such competition. In most settings, private and public schools serve different markets. Elite private schools do not compete even with ordinary public schools, because most people cannot afford the fees; alternative-curriculum private schools do not compete with mainstream-curriculum public schools, because most people do not want the alternative curriculum; and second-chance private schools do not compete with the public sector, because the students in those private schools would rather be in public ones.

The operation and impact of voucher schemes are also related to this discussion. Many models for voucher schemes have been proposed (Hakim et al. 1994; West 1997), and the reform in Chile, where families have been given the opportunity to use public resources to pay for places in private schools, is among the best-known examples of the practice (Espínola 1994; Rounds Parry 1997; Carnoy 1998). The Chilean reform increased choice and permitted reduction of unit costs in the education system. However, information on the characteristics of different schools did not flow easily to parents, and urban families had greater choice than rural ones. Key factors in the Chilean reform were a setting which did not permit political opposition, and a capacity at both central and municipal levels to make accurate counts of students and to impose effective penalties for inaccurate reporting. West (1997, 100) points out that cross-national experience with voucher schemes remains limited and that it is too early to reach firm general conclusions on their advantages and disadvantages. Nevertheless, policymakers in Asia as much as in other parts of the world may certainly find various models of voucher schemes worth consideration.

Private Tutoring – A Sector Deserving Particular Scrutiny

The scale, modes of operation, and implications of supplementary private

tutoring have been seriously neglected both in policy debates and in the academic literature (Bray 1999b). In some countries such tutoring is a massive enterprise. For example:

- A Sri Lankan survey found that in Colombo, 60 percent of Ordinary Level students and 84 percent of Advanced Level students received private tutoring (de Silva 1994, 4).
- In the Republic of Korea, private tutoring consumed 37.4 percent of out-of-school education expenditures in 1994 (Paik 1995, 24), far exceeding the proportions devoted to books (19.3 percent), stationery (7.4 percent), transportation (6.4 percent), or uniforms, boarding, and other expenses (29.5 percent).
- A 1992 survey of urban parts of Bangladesh found that 65 percent of pupils in government primary schools received private tutoring, which consumed 43 percent of the direct private costs of education for the total number of parents in the sample (World Bank 1996, 53).

Private tutoring has also been shown to be a substantial activity in parts of Cambodia (ADB 1996a; Bray 1999a), Malaysia (Marimuthu et al. 1991), Myanmar (Gibson 1992), and Singapore (George 1992).

While more research is needed on the topic, some points are clear:

- Private tutoring is a major sphere of activity, not only in prosperous countries but also in impoverished ones.
- Private tutoring is growing. In societies such as Hong Kong, China and Singapore where it has long roots, it is expanding, while in countries where it was not previously evident, such as the PRC and Viet Nam, it has emerged.
- Private tutoring is found at all levels, but is especially common in the years in which students take public examinations, both primary (where relevant) and secondary.
- The organizational structures for private tutoring are varied. Some tutoring is individualized and takes place in either the clients' or the tutors' homes. At the other end of the scale are institutions that operate from many campuses. Some enterprises even operate on an international basis. Kumon, which is a company specializing in mathematics tutoring and is headquartered in Japan, is an example.
- The quality of private tutoring is very varied. In few societies do governments set (let alone enforce) regulations on teacher qualifications, class size, etc. Much tutoring is of the "cramming" type, with very questionable pedagogical characteristics.
- Private tutoring may be found in both rural and urban areas, though it is more common in the latter than in the former.

It is far from certain that the unfettered growth of private tutoring, which has become a feature of many societies, is desirable. Governments should at least monitor the scale and nature of private tutoring, so that they are aware not only

of its impact on household budgets but also of its implications for the quality and effectiveness of mainstream schooling. Private tutoring is an instrument for maintaining or increasing social and geographic inequalities. While it presumably gives good private rates of return to the individual clients, it is not self-evidently an activity deserving encouragement.

International Aid for Education

International aid is a significant source of both finance and expertise for many of ADB's developing member countries. Some countries of course receive more aid than others; the nature and purpose of the aid also varies. Many of the issues relating to aid in general, and to aid for education in particular, have been explored in detail elsewhere (e.g., Lee 1991; Tisch and Wallace 1994; Serageldin 1995; King and Buchert 1999), and do not need repetition here. However, a few salient points should be noted.

Table 24 presents data on the scale of official development assistance flows to DMCs between 1982 and 1997. The volume of flows reflects not only the sizes of the DMCs concerned but also various political factors. For some DMCs in some years a negative sign is recorded, meaning that resources flowed out rather than in. For the years 1982 and 1987, no figures are recorded for Kazakhstan, Kyrgyz Republic or Uzbekistan because, while presumably resources flowed within the Soviet Union, they were part of a different framework.

Indonesia is among the countries in which external aid for education has played an increasingly prominent role. Figure 3 shows the percentages of contributions of three major external agencies, namely UNDP, World Bank, and ADB, to the total education budget during the periods of five 5-year plans (Repelitas). The picture is of significant growth, from 0.6 percent in the first plan (1968-73) to 12.1 percent in the fifth (1988-93). Figure 4 indicates the destination of the funds. Primary education received 67.3 percent of the total in Repelita I, but nothing in the next three plans and only 1.3 percent in Repelita V. By contrast, nonformal education received only 0.2 percent in Repelita I but 18.5 percent in Repelita II and 16.0 percent in Repelita V.

In Nepal, external assistance has played an even more important role. Table 25 indicates the trend between 1981-85 and 1997/98. External financing was already substantial, forming 19.7 percent of the total public budget for education in 1981-85; but by 1997/98 it had expanded to 52.8 percent. Figures such as these raise questions, both in Nepal and in other countries where aid levels have been comparable, about the extent to which policies and priorities are dominated by external agents rather than by the governments and peoples of the countries concerned. In Nepal, much of the early assistance was for technical higher education, but the bulk of assistance in 1997/98, reflecting the priorities of external agencies, was for basic and primary education. Whereas in 1981-85, 68.2 percent of assistance was in the form of grants, in 1997/98 the proportion was only 22.5 percent. From the viewpoint of the external agencies, the importance of loans rather than grants lay not only in the fact that

the resources of the agencies would be repaid and thus would be self-sustaining, but also that, at least in theory, the recipient governments would scrutinize projects more carefully and be more committed to their success. However, at the national level short-term political considerations have often

Table 24: Official Development Assistance^a Flows to Developing Member Countries
(\$ million)

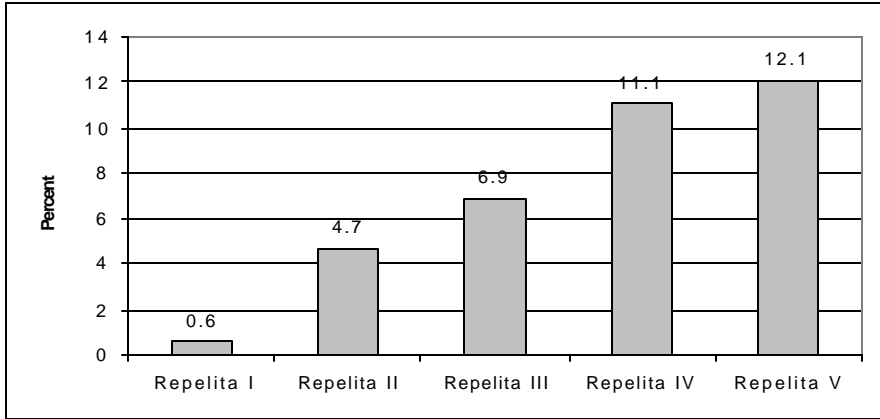
<i>Economy</i>	<i>1982</i>	<i>1987</i>	<i>1992</i>	<i>1997</i>
Afghanistan	9.3	45.0	204.3	278.9
Bangladesh	1,341.2	1,790.3	1,820.7	1,144.0 ^b
Bhutan	11.3	42.1	56.2	67.5 ^b
Cambodia	43.9	14.2	206.8	370.0 ^b
China, People's Republic of	524.0	1,381.6	3,049.6	5,042.2 ^b
Cook Islands	10.4	11.0	17.2	10.0
Fiji Islands	35.4	35.9	63.4	38.8 ^b
Hong Kong, China	7.9	19.4	-39.0	—
India	1,643.9	1,702.9	2,423.0	591.6 ^b
Indonesia	906.3	1,245.9	2,078.9	1,106.6
Kazakhstan	—	—	9.5	519.6
Kiribati	15.1	18.4	26.8	15.8
Korea, Republic of	34.0	11.2	-3.0	4,502.0 ^b
Kyrgyz Republic	—	—	3.5	214.7 ^b
Lao People's Democratic Republic	38.3	55.0	164.9	327.7 ^b
Malaysia	135.3	363.4	205.5	-70.2 ^b
Maldives	5.4	18.6	38.1	15.0 ^b
Marshall Islands	—	—	7.7	63.0
Micronesia, Federated States of	—	—	13.9	96.0
Mongolia	—	3.0	122.9	322.1 ^b
Myanmar	318.9	352.6	115.1	102.5 ^b
Nauru	—	—	0.2	2.6 ^b
Nepal	200.9	353.0	433.2	454.8 ^b
Pakistan	915.6	820.2	1,009.3	1,103.9 ^b
Papua New Guinea	310.7	317.7	442.1	296.5 ^b
Philippines	333.4	732.2	1,718.0	549.3 ^b
Samoa	22.8	34.6	53.4	28.2 ^b
Singapore	20.5	23.3	19.9	—
Solomon Islands	28.4	57.1	44.7	36.3 ^b
Sri Lanka	415.5	477.0	638.0	510.0 ^b
Taipei, China	-6.4	-8.5	5.9	—
Tajikistan	—	—	9.7 ^b	92.5 ^b
Thailand	388.9	469.9	772.5	6,231.7 ^b
Tonga	17.4	21.3	23.6	25.4 ^b
Tuvalu	6.2	25.7	8.4	10.1
Uzbekistan	—	—	1.4	74.7 ^b
Vanuatu	26.0	51.0	40.6	27.5 ^b
Viet Nam	135.5	111.0	575.1	849.6 ^b

— Data not available.

^a Official development assistance is defined as concessional flows to developing countries and multilateral institutions provided by official agencies, including state and local governments, or by their executive agencies, administered with the objective of promotion of economic development and welfare of the developing countries and containing a grant element of at least 25 percent.

^b Refers to net flows of long-term public and publicly guaranteed debt from official creditors and grants, including technical cooperation grants. This category is wider than that of official development assistance.

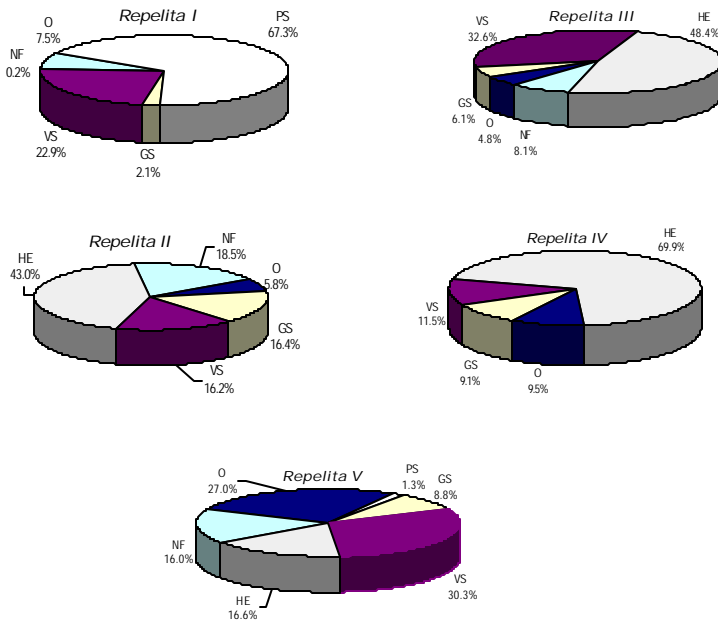
Figure 3: Contributions of Major Aid Agencies as a Proportion of the Total National Education Budget, Indonesia



Note: The periods covered by the plans are: I 1968-73; II 1973-78; III 1978-83; IV 1983-88; V 1988-93.

Source: Wirjomartono et al. 1997, 62.

Figure 4: Agency Contributions to Education, by Subsector, Indonesia



PS = Primary School; GS = General Secondary School; VS = Vocational Secondary School; HE = Higher Education; NF = Nonformal Education; O= Other (may include funds for several subsectors).

Source: Wirjomartono et al. 1997, 65.

taken precedence over long-term economic ones, and one effect of the expanded proportion of loan assistance has been a greatly increased national debt.

In the socialist and former socialist states, patterns of external assistance have changed markedly during the last decade. Resources flowed within and from the Soviet Union, but few resources for education came into the Soviet Union from outside. Mongolia was among the countries receiving substantial resources from the Soviet Union. Indeed in some years, inflows of Soviet resources amounted to over 30 percent of GDP (People's Republic of Mongolia 1991). In 1988 about 50,000 Soviet civilians and large numbers of military personnel worked in Mongolia, contributing to all aspects of the economy and government. By 1993, however, their numbers had plummeted. Since that time, external aid has been received from many bilateral and multilateral agencies in the Western bloc, but this has not completely replaced the scale of the resources that was previously received from the Soviet Union.

Aid from the Western bloc has also become a major input to the economies of the PRC, Lao PDR, and Viet Nam. For illustrative purposes, Table 26 shows official development assistance for education and training in Viet Nam between 1991 and 1995. The total volume increased markedly over that period (even allowing for the fact that these are in current prices). Technical/managerial education received the largest slice in 1991 and 1993, but by 1995 this had been overtaken by tertiary education.

Table 25: Trends in External and Internal Mobilization of Resources for Education, Nepal
(percent)

	1981-85	1986-90	1991-92	1993-95	1997/98
Internal	80.3	83.6	92.0	68.7	47.2
External	19.7	16.4	8.0	31.3	52.8
Grants	68.2	31.4	27.2	44.0	22.5
Loans	31.8	68.6	72.8	56.0	77.5

Source: Bajracharya et al. 1997, 76.

Table 26: Official Development Assistance to Education and Training, Viet Nam, 1991-1995
(\$ '000)

	1991		1993		1995 ^a	
	\$ '000	%	\$ '000	%	\$ '000	%
Sector policy and planning	299	3	769	4	1,338	4
Primary schooling	517	6	2,170	11	4,682	12
Secondary schooling	2,135	24	2,489	13	465	1
Tertiary education	1,778	20	3,784	20	19,770	52
Technical/Managerial	3,648	41	7,957	42	9,894	26
Nonformal	483	5	1,809	10	1,647	4
Total	8,860	100	18,978	100	37,796	100

^aPlanned.

Source: World Bank 1997d, 41.

At the other end of the scale are countries that, for ideological or other reasons, have relatively small inflows of external resources. Myanmar is in this category, while the Indian Government has been unwilling to take substantial loans for education. These observations underscore the complexity of the national and international dynamics that must be considered.

Other issues include absorptive capacity, coordination with and between external agencies, and the conditionalities imposed by some external agencies. In Cambodia, nearly half the Government's 1994 budget for education was financed by bilateral and multilateral agencies (ADB 1996a, 73). Some projects were in competition with each other for scarce counterpart personnel, and major inefficiencies were caused by limitations in national infrastructure. Some of the conditionalities imposed by the external agencies concerned technical matters such as availability of management structures, but others had broader political implications. For example, in 1997 the United States Government suspended most of its aid, including that in the education sector, in protest against what it perceived to be antidemocratic actions and a quasi coup d'état.

These political factors underline the fact that external aid is rarely a stable source of finance for national governments. Burgess (1997, 313), focusing on basic health and education, points out that:

Levels of aid finance to specific basic health and education projects fluctuate widely depending on the vagaries of Western donors. Resources released are also unlikely to increase in line with economic and population growth. This failure to satisfy stability and buoyancy criteria is particularly serious given that the bulk of costs in basic health and education projects are recurrent.

These points, Burgess emphasizes, underline the necessity for governments to rely on domestic resources, and particularly taxation, for the bulk of their education financing. However, Burgess agrees that aid can play a useful role in financing large capital-intensive projects, especially ones which demand foreign exchange. Examples might be at the tertiary level, where start-up costs and technical demands are high. External aid can also, perhaps, play a role in helping to generate increased domestic revenues through taxation.

Particular Strategies for Particular Groups of Countries

Throughout this booklet, stress has been placed on the diversity of countries and of the circumstances that face them. This creates difficulties in generalization, but it is possible to identify commonalities within particular groups. The most obvious factor for grouping is economic strength or weakness. Other criteria for classifying states include political history (particularly to identify the states which have made a transition from socialism), and size of country.

Poor, Middle-Income, and Rich Economies

Although Hong Kong, China, Nauru, and Singapore are classified as ADB DMCs, their economic circumstances are vastly different from those of Bangladesh, Cambodia, India, and Mongolia. The economic differences between economies are reflected both in their current education systems and in approaches to the future. The prosperous economies already have high enrollment rates at all levels. Their governments and peoples remain rightly dissatisfied about qualitative aspects in their education systems, but the gap between them and the low-income groups is vast. The rich economies can meaningfully consider grasping new technologies for education on a wide scale, can aim to become global centers of expertise in certain aspects of research, and can afford to look after their handicapped and other disadvantaged citizens in a way that cannot be contemplated by poor societies.

At the other end of the scale are the countries in which enrollment rates, even for basic education, have never approached universality and are now stagnating or declining. Investment priorities in these countries are more likely to aim at raising enrollments than at improving quality, though of course the latter may be a route to the former. Despite the remarks made above about the need to be part of strategic innovations, for the poor countries investments in books may still be more important and cost effective than investments in computers; and while their governments may be attracted to philosophies of privatization both as a way to improve efficiency and to help in sharing the burden, the governments should still aim to contribute more to the education sector than they are currently doing.

In the middle is a group of countries that aspires to raise their profile and join the top rank. Throughout the region and beyond, analysts in middle-income countries have sought to identify the factors that have contributed to the so-called East Asian Miracle (World Bank 1993a), including those which are linked to the education sector, in order to emulate those which can be emulated. Whether simple formulas can be distilled from the experiences of the eight high-performing Asian economies (HPAEs) is a matter of dispute (Morris and Sweeting 1995; Lewin 1998; Mingat 1998; Mundle 1999). Nevertheless, the topic has naturally attracted considerable attention from many sides.

To some observers, however, the economic collapse in many parts of the region during the second half of 1997 meant that the image of a miracle had become somewhat tarnished (Desai 1998). The most-affected countries were Indonesia, Republic of Korea, Malaysia, and Thailand. Although subsequent years brought some recovery, the crisis underlined the fragility not only of economic systems but also of country groupings for policy analysis. One result of the events was that a new grouping entered the arena, namely of seemingly vigorous economies that had suffered abrupt economic collapse (Godement 1999; Mallet 2000).

Even with such fluidity, however, the obvious fact remains that countries in different income groups must be viewed differently for the purposes of policy analysis in education as much as in other sectors. Variations between countries in different income groups have underpinned the bulk of earlier discussion in this booklet, as remarked, for example, in the commentary on

rates of return by level of education in countries of different income groups. Differences between countries in different income groups have also dominated huge segments in the literature on education and development. As such, it is not necessary to dwell on the topic here; but clearly the matter must be borne in mind in all discussions of strategies and priorities.

Transitional and Long-Standing Capitalist Economies

The economies that have recently made a transition from centrally planned socialism face distinctive challenges that differ from those in long-standing capitalist economies. The formerly socialist DMCs are Cambodia, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan. The countries that remain officially socialist but have moved to market economies form another group facing challenges that, in many respects, are similar. The countries in this group are PRC, Lao PDR, and Viet Nam.

Most countries of the former Soviet Union, together with Mongolia, had strong education systems prior to the political changes that overtook them in the early 1990s (Kitaev 1996; Gannicott 1998; UNICEF 1998). Their peoples thus look with considerable ambivalence at the serious deterioration that has taken place in at least some sectors. For example, Kazakhstan's public budget for education, which in 1990 represented 7 percent of GDP, fell to half that amount shortly after the 1991 political transition. A 1995 ADB review (p.13) noted that the education sector was still "being pushed by frequent ad-hoc expenditure reductions which, in the absence of a comprehensive and feasible sector adjustment policy and program, impact negatively on previously attained ... standards," and an official report written five years later (Kazakhstan 2000) did not show much improvement. In the former Soviet republics of Central Asia, the preschool sector has been hit particularly hard (Box 6).

The challenge to reorient both education systems and wider frameworks had still not been effectively achieved in most former Soviet systems by the late 1990s. The Soviet system had not encouraged institutions to monitor their expenses and conserve resources. Thus schools in some countries found themselves paying huge bills for utilities that previously they had taken for granted and that, even after they became conscious of them, they could not easily control e.g., because heating was supplied centrally and could not be turned off (ADB 1994, 1995, 1996c). Ministries and institutions also had to look with fresh eyes on such issues as teacher deployment and the numbers of nonteaching staff in schools.

Most of the transition economies faced tensions arising from the emergence of private institutions in higher education, which operated with little or no government supervision and control. In Mongolia, for example, private tertiary institutions mushroomed shortly after the official transition to capitalism in 1991 (Bray et al. 1994, 37). Many of these institutions focused on foreign languages, while others were specialized in such subjects as law, culture, and sports. By 1995 the institutions numbered 36 and catered to 24 percent of post-secondary students (Erdenesuren 1997, 83). However, they were very variable in quality; and the fact that the average size was just 70 students raised questions on whether they were operating with sufficient economies of

Box 6: The Negative Impact of Transition on Preschools in Central Asia

The Soviet period brought the development of a strong public preschool sector in the component parts of the Soviet Union, including in the states of Central Asia. For example, in 1990 nearly half the children in the target age group attended preschools in Kazakhstan. The figure for Uzbekistan was 40 percent, and that in Kyrgyz Republic was 33 percent (Klugman et al. 1997). The majority of these preschools were operated by enterprises, though some were operated by government ministries and local authorities.

The financial constraints of transition forced many enterprises either to divest themselves of preschools or to increase fees. Governments and local authorities faced similar pressures, with the result that many preschools were either privatized or closed. In Kazakhstan, the number of preschools fell from 8,881 in 1990 to 1,558 in 1998 (Kazakhstan 2000, 21); in Tajikistan from 958 in 1990 to 456 in 1998 (Tajikistan 2000, 21); and in the Kyrgyz Republic from 1,696 in 1990 to 449 in 1996 (Kyrgyz Republic 1997, 11, 29). Many people viewed this situation with considerable misgiving, for the preschools were considered to play an important economic as well as social function.

scale. Similar questions were applicable in Kazakhstan, where 65 private higher education institutions emerged between 1991 and 1995 (ADB 1995, 42). Thirty of these institutions were unlicensed, and 22 had fewer than 200 students.

Another contrast between the formerly socialist states and the long-standing capitalist states was in dropout rates at the school level. As noted above, in most Asian countries dropout rates have declined during the last two decades. However, in the formerly socialist states they rose abruptly during the early 1990s, the result of a combination of push and pull factors. Some students were pushed out of school by their inability to pay charges which the schools now levied; and some voluntarily left school in order to take advantage of the new opportunities in the urban labor force as petty hawkers, etc.

Countries of Different Sizes

The Asian and Pacific region contains the world's two largest countries in terms of population size (PRC and India) and the two smallest (Nauru and Tuvalu). While it seems self-evident that strategies for the largest and the smallest must differ, the implications of size, which of course also concern all the intermediate countries, are commonly overlooked.

The growing literature on education in small states (e.g., Bray 1992a; Bacchus and Brock 1993; Bray and Packer 1993; Crossley and Holmes 1999) stresses that such states are not simply scaled-down versions of larger states. Instead they have ecologies of their own, and need particular strategies both in education and other spheres. Among the most obvious is in higher education. Some states are too small to be able to operate national universities. These states either have no universities at all, or join regional institutions. The small states that do have national universities can only have institutions catering to a

very limited range of specialties. The governments of small states are generally well advised to compare carefully the costs and benefits of operating their own institutions with the alternative of sending students to foreign universities. They may well find that the latter is less expensive and preferable in terms of quality. Small states may also need to consider similar trade-offs in the design and administration of examinations, teacher training, and curriculum development.

In contrast, large countries face major problems of coordination arising from the huge numbers of people and institutions involved. This is among the domains where analysts of the PRC and India feel that they can learn strategies from each other (Ahmed et al. 1991; Drèze and Sen 1995). More positively, large countries can generate such significant economies of scale that they can operate highly specialized institutions, which could not be contemplated even in medium-sized states. Thus the PRC, for example, has specialist universities for agriculture, transport, teacher education, and even aeronautics.

The nature of external aid projects may also need to differ in small and larger states. Small states are more likely to need either small or multifaceted projects, and they will require implementation strategies that take into account the scarcity of counterpart personnel, the personalized nature of bureaucracies, and the fact that small amounts of money have a much greater profile (Coyne and Bray 1999). Large countries, in contrast, usually have access to many more specialized personnel. They can also absorb substantial projects; and they are likely to have greater scope for shifting resources around should it be necessary to develop particular components of projects at short notice.

Conclusion

This booklet began by remarking that the Asian and Pacific region has both considerable diversity and major commonalities. The juxtaposition of these elements has provided the basis for this analysis, which has highlighted contrasts and similarities.

All countries of the region now operate in a context of globalization, especially in terms of economic interdependence, and in an environment in which national development is almost universally considered in terms of capitalist structures. In all countries, education is seen as a major investment for economic and social goals. It is arguable that some governments do not invest as much in the sector as it merits. In some cases the gap is bridged by the private sector; though in some countries the private sector is also underdeveloped. The nature and consequences of private financing are not simple, and more investigation is needed into the implications of:

- household and community contributions to public institutions;
- private institutions that operate in parallel to public ones; and
- private tutoring that supplements public schooling.

On the specific matter of fees in public institutions, various declarations sponsored by the United Nations and its specialist agencies in the 1940s, 1950s, and 1960s argued that education should be free of charge, especially at the basic level but also at higher levels. Concerning tertiary education, a broad consensus of opinion now recognizes that fees are desirable, not only as a mechanism for limiting the burden on the public purse but also as a way to restrict what could otherwise be the nonequitable effects of fee-free education. Most governments that charge fees in tertiary education also provide grants and scholarships for needy students, and some have experimented with loan schemes. Experience with loans has highlighted the many administrative complexities that make such schemes less attractive in practice than they might appear in principle; but even in the absence of efficient loan schemes, the economic and social justifications for demanding at least some fees for higher education remain strong. Of course governments must also heed political factors, and one key factor in successful introduction of reform is the ability to show the general public that, contrary to widespread belief, the provision of fee-free higher education is inequitable rather than equitable.

At lower levels of education, fees in public institutions are less easy to justify. A particularly strong argument can be presented for fee-free primary education, given the externalities that whole societies gain from high enrollment rates. However, some governments suffer such severe fiscal stress that they are unable by themselves to provide fee-free primary education of an acceptable minimum quality. Moreover, some observers stress the importance of households and communities making at least some contribution to schools in order to promote feelings of ownership and public interest in the operation of the schools. Because of these factors, throughout the Asian and Pacific region many policymakers have underlined the importance of partnerships and the value of community participation (Bray 2000). The dominant consensus is that the public sector should remain the principal provider of education (Box 7), but that partnership schemes can be valuable provided that they pay careful attention to socioeconomic, rural-urban, and regional equity.

In the region as a whole, major quantitative strides have been made during recent decades in the provision of primary, secondary and, to some extent, tertiary education. Where quantitative targets have been achieved, much of the attention is turning to quality. However, the attainment of universal or near-universal primary education increases demand for secondary education, while that of universal or near-universal secondary education increases demand for tertiary education. One projection is that demand for university enrollments in Asia will nearly triple during the next few decades (ADB 1997b, 174). Such demand will require innovative ways to provide supply, rather than mere expansion of existing models. In this domain, the contributions of technology and the potential for distance education provide exciting possibilities.

Many policy analysts recommend that, particularly at the tertiary level, demand is best satisfied by the private sector rather than through government

Box 7: What Role for the State in Financing Education?

The 1980s and 1990s brought considerable questioning of the role of the state in all sectors of economic and social activity. Challenges to the dominance of the state came from awareness of inefficiency and lack of responsiveness to market signals.

However, general agreement remains that the state should continue to be the lead actor in financing education, particularly at the basic level. The view of Burgess (1997, 326) is that:

Arguments relating to market failure, redistribution and poverty, basic rights, and externalities ... still point fairly directly to a significant role for the state in particular areas, which include infrastructure and regulation, social protection, education, health and the environment. ... Problems of market failure are particularly prevalent in markets for basic health and education that are typically thin, incomplete, or missing. These are unlike normal private goods, in the sense that there are pervasive externalities associated with their provision that are not captured in private calculations of costs and benefits.

Thus, while strong arguments can be made for privatization in areas in which the state does not have a clear advantage over private markets (e.g., industrial production), the rationale for continued state dominance in the education sector remains strong.

initiatives. However, experience in Asia as much as in other parts of the world demonstrates the dangers of unbridled private sector growth in higher education (Wongsothorn and Wang 1997). These dangers include inferior quality and exploitation of customers who are poorly informed. Similar remarks may be applicable to lower levels of education, though private preschools are obviously different in nature from private universities.

For many purposes, it is necessary to look at subgroups rather than at the Asian and Pacific region as a whole. The challenges in the PRC are very different from those in Solomon Islands, and the challenges in the Republic of Korea are very different from those in Uzbekistan. Among the criteria on which countries may usefully be classified, those of economic development, political history, and national scale have been highlighted here as being particularly useful.

Yet even within these groupings, appropriate strategies for particular countries must match the specific circumstances of those countries. Moreover, the identification and development of those strategies must be done by the leadership in those countries; and in many settings different policies are needed for different provinces or districts. Only through such a process can policies gain the necessary tailoring.

However, during the process of working out strategies, much can be learned from comparative analysis to identify what has worked or failed in other contexts, and why. Partly for this reason, partnerships with external agencies can often be desirable during the formulation of policies.

Note on the Author

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