

Financing Human Development: Some Lessons from Advanced Asian countries

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Summary. — This paper brings together the main conclusions of a study which has analyzed public expenditure policies pursued by today's advanced Asian economies (AAE) and their policies for financing the provision of education and health services during the high-growth phase. The AAEs combined prudent low-deficit fiscal policies with large allocations for social services. This was combined with efficient public resource allocation within the social sectors for basic education and health services, and reliance on the private sector for higher levels of education and expensive curative health-care. AAE experiences with health insurance also hold useful lessons for today's developing countries. © 1998 Elsevier Science Ltd. All rights reserved

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1. INTRODUCTION

Few would disagree that the rapid development of human resources is a necessary, if not a sufficient, condition for sustaining high rates of economic growth. A number of studies confirm that investments in human resource development, especially primary education and preventive health-care, yield significant gains in productivity and income (Behrman 1990, Summers 1992, Tan and Mingat 1992, Romer 1994, Pack 1994, Grossman and Helpman 1994). The "good for growth" argument apart, education and health are important welfare goals in themselves. Growth of per capita income has long been considered too narrow and inadequate as a measure of improvements in human well-being. Nevertheless, economists, policy makers, and the development community at large continued to use the per capita income measure of progress and well being for lack of a better alternative. The concept of well-being analytical has now been vastly extended (Sen 1992). Impressive advances have also been made in the actual measurement of well-being, largely at the initiative of the United Nations Development Programme (UNDP), which now regularly rates countries by its Human Development Index.¹

These advances in theory and empirical analysis reflect the development community's growing concern with social aspects of development, a phenomenon that was sharply focused in

the Social Summit at Copenhagen in 1995. Steel mills, dams, and machine building industries have now been displaced from the commanding heights of development strategy. Instead, along with issues of gender and environment, the so-called "soft sectors" such as education and health have come to occupy center stage. There is, nevertheless, a tension between the need for greater emphasis on social development and aggregative concerns such as macroeconomic stability or the efficient use of resources. Resources after all, are, not unlimited and growth remains an urgent item on the agenda of all developing countries in Asia and elsewhere. Indeed, the available evidence seems to suggest that growth is perhaps the only effective long-term strategy for alleviation of income-poverty. Developing countries are often faced with hard choices, or what appear to be hard choices, in allocating scarce resources between social development and growth.

In the context of this tension, the experiences of the advanced Asian economies (AAEs) merit

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close attention. The recent crisis in the region notwithstanding AAEs have all achieved exceptionally high rates of growth for the past 20–30 years. At the same time, there was very rapid development of human resources in the AAEs during this period, bringing them on par with the advanced industrial countries (Table 1). Was there a causal relationship between the two processes? How were the competing demands for resources managed? What were the specific roles of the public and private sectors in financing human resource development (HRD)? What were the supporting institutional arrangements? Were these arrangements efficient? What were the major problems these HRD strategies faced? What lessons do these experiences offer for the developing member countries (DMCs) of the Asian Development Bank today? To seek answers to these questions, the Bank recently undertook studies in four AAEs — Japan; the Republic of Korea; Singapore; and Taipei, China — that have yielded some very interesting results.

The main conclusions emerging from these studies are discussed under three separate themes: social spending and public expenditure policies, education strategy and education financing, and health financing and social health insurance.

2. SOCIAL SPENDING AND PUBLIC EXPENDITURE POLICIES

The case for public expenditure proceeds from market failures of one kind or another. There are some public goods, such as defense, administration, a clean environment, etc., that cannot be provided easily by the market. This is because no consumer can be excluded once these services are provided and hence consumers will not voluntarily “buy” these services. There are also some goods and services, called collective goods,

that benefit society at large over and above their private benefits to immediate consumers. These again cannot be adequately provided through markets driven by private cost and benefit calculations. The market mechanisms may also yield income distribution outcomes that are socially unacceptable. These are some of the main limitations of the market mechanisms that call for public intervention and public spending. On the other hand, public spending is also subject to the various risks of “government failure,” especially the inherent tendency toward over-expansion of public expenditure and the misallocation of such expenditure. This arises from capture of the policy-making process by special interest coalitions, including the bureaucracy.

Empirically, it has been observed that the ratio of public expenditure to gross domestic product (GDP) and the share of social spending in total public spending both tend to rise with rising per capita income (Wagner 1958). Various hypotheses have been advanced as to why this happens (Niskanen 1971, Brennan and Buchanan 1981). There are no clear rules, however, as to what might be the appropriate level of public expenditure, relative to GDP, or its desirable allocation across sectors at different stages of development, which can simultaneously meet several objectives. The objectives include minimizing the combined social cost of “market failure” and “government failure,” maintaining a stable macroeconomic environment conducive to growth, and meeting certain distributional or social goals at the same time. It is interesting to ask in this context what public expenditure policies were pursued by the AAEs that managed to combine sustained periods of high growth with rapid social development and low inequality of income.

The four AAEs selected for the study are at very different stages of development. By 1990, for instance, per capita incomes in Singapore and

Table 1. *Comparative indicators of human development*

Economy	Life expectancy at birth (1992)	Adult literacy, % (1992)	Gross enrollment ratio (%) (1st, 2nd, & 3rd levels combined, 1992)
Japan	79.5	99.0	77
Korea, Rep. of	71.1	97.4	79
Singapore	74.8	89.9	68
Taipei, China	74.0	93.0	^a
All developing countries	61.5	68.3	540
ECD countries ^b	76.1	98.3	80

^ana = not available.

^bOECD = Organisation for Economic Co-Operation and Development. Member countries are all advanced market economies.

Sources: UNDP; Rao (1995).

Taipei, China were almost double that of the Republic of Korea, while Japan has had a per capita income of almost five times as much and already much higher than the OECD average (Table 2). Nevertheless, there are some striking similarities in their public expenditure policies. This robustness suggests a core of public expenditure policy that may be a necessary ingredient for any strategy of sustained high growth, irrespective of the initial level of development. There are, of course, variations around this core policy and these variations also lead to interesting insights.

(a) *Conservative public spending policies*

The first major element of this core policy is a relatively conservative public expenditure stance. The government spending ratio tends to rise with per capita income. It is only around 20% for the developing countries, but is now approaching 50% of GDP in the OECD countries. Japan; Singapore; and Taipei, China are now all in the high income bracket, Japan's per capita income being one of the highest in the world. Even the Republic of Korea now has about five times the average per capita income of developing (low and middle-income) countries. It has recently joined the OECD group. Despite this, the AAEs have all restricted their public expenditure ratios to levels of around 20–30% of GDP, which is not much higher than those of the developing countries (Table 2). One reason for this difference between the AAEs and other developed countries is the huge expenditure on social security, which has generated severe fiscal pressures in most OECD countries. The AAEs have largely avoided this, though the social security bill is now emerging as a major concern

in Japan. However, there are also other important differences which are discussed further below.

The restraint in public expenditure, combined with surplus or low-deficit budgets, has enabled the AAEs to maintain relatively low rates of inflation. There have been episodes of high inflation; but, whenever inflationary pressures threatened to get out of hand, public expenditure was quickly reined in. In the Republic of Korea, for instance, the government provided massive public expenditure for reconstruction after the Korean War. But, when prices rose by around 30% in 1961, the public expenditure ratio was quickly compressed. Similarly, when large public spending on the heavy industries and chemicals program under the Third Plan led to a surge in prices, the program was abandoned and the public expenditure ratio brought down from 30% of GDP in 1981 to only 21% in 1987.

The low rate of inflation encouraged the rapid increase in savings. The savings rate was already very high by 1965 in Japan, but in two of the other AAEs it rose from only around 10% in 1965 to around 40% or more by 1990 (Table 2). This phenomenal increase in the savings rate is quite exceptional among OECD or developing countries. The low rate of inflation also helped to establish cost competitiveness for exports from the AAEs. The high rates of saving and rapid export growth have been recognized as two key factors leading to sustained high rates of growth in these countries. Fiscal conservatism and the high priority given to macroeconomic stability are important elements underlying this story. Low inflation also contributed to spreading the fruits of growth equitably, since the poorest households are usually the least protected against inflation. The more important factor

Table 2. *Selected economic indicators*

Economy	GNP per capita		Gross domestic savings rate		Average inflation (1980–90)	Government spending to GDP ratio ³ (1992)	Government savings rate (1990)
	(US\$ 1990)	(Average growth 1965–90)	(1965)	(1990)			
Japan	25 430	4.1	33	34	1.5	29.3	12.3
Korea, Rep. of	5 400	7.1	8	37	5.1	24.3	9.0
Singapore	11 160	6.5	10	45	1.7	20.4	15.9
Taipei, China	7 950	9.1	19.7	28.1	3.2	29.4	7.5
Developing countries	1 406	2.5	20	26	53.4 (11.7)	20.8	na
OECD countries	20 170	2.4	24	22	4.2	48.9	na

na = not available

Sources: Rao (1995); World Bank, 1992; World Bank, 1993a; World Bank, 1994; Asian Development Bank a; Asian Development Bank b; and Council for Economic Planning and Development, 1995.

here, however, is the allocative aspect of public expenditure discussed further below.

(b) *The allocation of public expenditure: efficiency and equity*

Public expenditure accounts for many types of goods and services: public goods such as general administration, defense, etc. that are not valued in the market at all; collective goods such as primary education, preventive health-care, etc. that are under-valued in the market; and other goods and services that can be properly valued in the market. It is therefore not possible, in practice, to add them all up and value the total output of goods and services provided through public expenditure or measure its productivity in the conventional sense. In the absence of direct productivity measures, qualitative indicators such as the efficiency of the allocative pattern are often used as proxies (Chuke and Hemming 1991, International Monetary Fund 1995). Large allocations for social overheads such as education or health and physical infrastructure are seen as indicative of allocative efficiency, since these would maximize social returns. It is possible to compare the efficiency of public expenditure policies in the AAEs with those in developing economies or the OECD countries in these broad terms. An analysis of AAE public expenditure allocation against this criterion suggests a high level of efficiency.

Total social spending in the OECD countries, at over 60% of total public spending, appears to be remarkably high compared with either the developing countries or the non-OECD group (Table 3). But, about two-thirds of social spending in OECD countries is on account of expenditure on social security. It amounts to

about 40% of total public expenditure in these countries. The social security expenditure in developing countries and the AAEs is much lower, except in Japan. Once this component is taken out, the allocation to social services proper (such as education, health, housing, and other community services) is about the same in the OECD and the developing countries, at around 20%. By contrast, the allocation for social services in Japan, the Republic of Korea, and Singapore are all much higher, at around 30–40%.² Within individual sectors, public spending was concentrated on services with the highest social returns, such as primary education and preventive health-care, an issue that is addressed in more detail in the discussion of education and health financing.

The concentration of public spending on services with the highest social returns stands out as a major strategic difference that sets AAE public expenditure policies apart from that of the rest of the world, the OECD countries, and the developing countries. It also demonstrates that, with suitable prioritization in resource allocation, large-scale public investment in human capital formation can indeed be combined with fiscal prudence and a generally conservative fiscal policy stance. In other words, it would appear that public expenditure in the AAEs has been characterized by much greater allocative efficiency than has been the case in the OECD or the developing countries. The greater emphasis on social services in AAE public expenditure policies must also be considered superior in distributive considerations. Enhancing capabilities to be literate and acquire knowledge, lead healthy lives, etc. are ends in themselves. They also enhance the capability to be more productive and earn a larger income.

Table 3. *Allocation of public expenditure*

Economy	Gen. Adm. and Pub. order (1)	Defense (2)	Economic services (3)	Educa-tion (4)	Health (5)	Housing & com. services (6)	All social services (4+5+6) (7)	Social sec. & welfare (8)	Total/ social spending (7+8) (9)	Other expen-diture (10)	Total expen-diture (11)
Japan (1992) ^a	10.8	3.2	16.1	13.0	17.1	8.8	41.9 ^b	28.7	69.6	0.3	100.0
Korea, Rep. of (1992)	15.8	14.7	23.8	16.5	2.1	13.8	32.4	7.9	40.3	5.4	100.0
Singapore (1992)	8.0	27.5	11.3	21.5	5.9	9.8	37.2	2.2	39.4	13.8	100.0
Taiwan (1990–93) ^c	11.0	15.6	26.3	19.8	1.8	^d	21.6	15.0	36.6	10.5	100.0
All Developing Countries (1990)	15.3	11.0	21.1	13.6	5.9	2.7	24.6 ^b	6.7	31.3	21.3	100.0
OECD Countries (1988)	8.2	6.5	14.0	7.8	11.4	1.7	20.9	39.7	60.6	10.7	100.0

^aJapan is both an AAE and an OECD country.

^bIncludes other social services.

^cAverages.

^d = not available.

Source: Rao (1995).

Because public expenditure policies are much more effective as redistributive instruments than tax policies (Gillis 1989), the systematic use of this instrument is undoubtedly one of the major factors that account for the benefits of growth being widely shared in the AAEs.

(c) *Other important features*

Beyond these aggregative "lessons", some other specific features of AAE public expenditure policies should also be noted. First, the AAEs have by and large avoided getting trapped into the kind of "pay as you go" social security systems that have led to a crisis of fiscal sustainability in many OECD countries. The only exception is Japan, which not only has a social security system but also a health insurance system that is publicly funded. Predictably, this has now emerged as a major fiscal concern in Japan. In addition, the high priority for social services in public expenditure policies notwithstanding, the AAEs have relied much more on private resources than is perhaps generally understood. Overall regulation by the state may have obscured the fact that private funding of education is much higher in the AAEs than in all OECD countries, including the United States. Moreover, in all the AAEs except Japan, health-care systems are privately funded, even though the health insurance system is mandatory and regulated by the state.

This model of private funding combined with close regulation by the state is perhaps most transparent in Singapore where the provision of social services is closely regulated by the state, but it is funded from private savings through an elaborate compulsory provident fund system. This is a compulsory savings scheme in which around 20% of wages and salaries is contributed to the compulsory fund system by employees and employers on a matching basis. Contributors are then allowed to withdraw from this fund up to prescribed limits for specified expenses such as housing, higher education, or health-care. This off-budget operation also accounts for the very low allocation for social security in Singapore's expenditure budget (Table 3).

The Singapore arrangement works in the context of a corporatist city state with a high income economy, efficient administration, and advanced information systems. Clearly it would be inappropriate for most developing countries. It could, however, work for particular subsectors of a developing economy, such as the high income urban organized sector³ or at least the public sector. Such private funding of high

quality social services for the relatively rich would then release public resources to cover basic education and health services and unemployment safety nets for the relatively poor in the rest of the economy (Mundle 1994), thereby combining equity with efficiency in the allocation of public expenditure.

3. EDUCATION STRATEGY AND EDUCATION FINANCING

Comparing the policies currently being pursued by developing countries in Asia with the policies pursued by the AAEs when they were at a comparable stage of development leads to a number of important policy lessons with regard to the prioritization of different education services at different stages of development, the financing of these services, and the efficient use of resources in education.

(a) *The primacy of primary education*

Perhaps the most important lesson is that the AAEs laid great emphasis on basic education (primary plus lower secondary) at a very early stage of development, prior to their high growth phase, much more so than in other Asian countries. In 1960 for instance, just prior to the high growth phase, AAE enrollment rates of 4–10% in higher education were not very different from the Asian average of 4%. At the primary level, however, enrollment in the AAEs was already around 100% while the Asian average was only 76%, and it was as low as 42% in India and 33% in Pakistan (Table 4). The effectiveness of this strategy is demonstrated by the early achievement of high retention rates in schools, high learning achievements compared with even the OECD countries, and the robust statistical association between primary level enrollment rates and subsequent high growth. This evidence strongly reinforces the conclusions of a number of earlier studies that have demonstrated the high rates of return on primary education and its positive impact on labor productivity and on health and other social objectives (Behrman 1990, Llau 1991, Mingat and Tan 1988, Mook 1994, Psacharopoulos 1994). These conclusions have a fairly far reaching implication. They suggest that the prioritization of different levels of education services in many DMCs today are quite the opposite of the kind of priorities that may be necessary for education to serve as an effective instrument for promoting either equity or rapid economic growth.

Table 4. *Gross enrollment rates and growth ratio in Asian countries (1950-92)*

Economy	Primary schooling (%)					Secondary (%)					Higher education (%)					Growth ratio 92/60
	50	60	70	80	92	50	60	70	80	92	50	60	70	80	90	
Japan	a	a	a	a	a	66	79	90	93	98	6	9	17	31	46	6.02
Korea, Rep. of	88	96	a	a	a	16	27	41	78	90	1	4	8	16	42	10.49
Singapore	77	a	a	a	a	7	32	46	58	70	2	6	7	8	22	7.90
Taiwan	88	97	a	a	a	11	29	52	77	88	1	4	7	10	21	9.17
Bangladesh	na	na	52	58	79	na	na	17	17	20	na	na	2	4	4	1.85
China, People's Rep. of	21	58	85	a	a	5	18	46	46	54	c	c	c	1	2	5.05
Hong Kong	50	a	a	a	a	13	30	64	64	na	1	4	7	11	20	7.09
India	26	42	73	83	a	4	10	30	30	49	1	2	4	6	9	1.90
Indonesia	41	60	74	a	a	2	6	29	29	43	c	1	2	3	10	3.50
Malaysia	57	74	87	93	93	5	17	48	48	60	c	1	2	4	8	3.39
Pakistan	24	33	40	39	48	10	11	14	14	22	1	2	3	3	3	2.50
Phillippines	93	91	a	a	a	23	26	64	64	76	10	12	20	26	27	1.54
Sri Lanka	80	95	90	90	a	20	27	70	70	86	1	1	1	3	9	2.19
Thailand	73	83	83	83	97	6	12	29	29	36	2	2	2	13	19	5.04
Asia mean	60	76	85	85	94	14	24	51	51	62	2	4	6	9	14	4.83

^a100%.

^bna = not available.

^cbelow 1%.

Source: Mingat (1995).

(b) *Priorities in post basic education*

The emphasis on basic education is not immutable. In fact, there appears to be a sequencing relationship between education priorities and the stages of successful development. Once a minimum threshold of per capita income was achieved, and there was universal coverage of primary education, the AAEs shifted their emphasis to senior secondary education and eventually to higher education. Within senior secondary education, high priority was attached to vocational education, which on average accounted for about 40% of total enrollment until per capita incomes rose to about 1992 US\$8000. Thereafter, this share has tended to decline. Similarly, at the higher education level, the priority for short courses of up to two years has given way with rising income to standard university-type courses.

It is also interesting to note that, contrary to expectations, there is no strong prevalence of enrollment in technical subjects such as engineering at the level of university education. In three of the four AAEs, humanities and social sciences account for a much larger share of enrollment than engineering, in some cases 2-3 times larger. The exception is Singapore, where education is the least dependent on private funding out of the four AAEs and where enrollment is, therefore, less responsive to market signals.

(c) *Emphasis on private funding*

Basic education has been treated throughout as a collective good in the AAEs and it has been publicly funded. Since the returns to private investment in higher levels of education are quite high, the delivery of these services have been largely paid for privately, except in Singapore, though there is close government regulation of these services. The private funding has typically been mobilized through user charges. The reliance on such private funding is much higher in the AAEs than in other OECD countries, including the United States. It is also clearly at odds with the pattern observed in many developing countries in Asia. Private financing accounts for only about one-third of total direct expenditure on regular higher education in Asian countries as a whole, whereas this proportion is as high as 50-60% in the AAEs. The exception is Singapore where the government accounts for 75% of education expenditure (Table 5).

This large reliance on private funding has important implications for both efficiency and equity. First, unit costs in public institutions are higher than in the private institutions. This implies that the larger the reliance on private funding, the lower would be the average unit cost of education in the economy. The greater reliance on public systems in the DMCs than in the AAEs suggests considerable room for raising efficiency and conserving resources in the former

Table 5. *Unit cost of regular higher education institutions in Asian countries (in per capita GDP, end of 1980s)^a*

Economy	Unit cost of regular public institutions	Share of private financing (%)	Public/private unit cost ratio
Japan	0.62	62	2.1
Korea, Rep. of	1.04	60	1.1
Singapore	0.55	25	na
Taiwan	0.92	50	2.4
Bangladesh	2.84	16	na
China, People's Rep. of	3.30	0	na
Hong Kong	na	na	na
India	2.31	7	na
Indonesia	1.06	48	3.2
Malaysia	1.90	15	na
Pakistan	1.57	5	na
Philippines	0.50	85	2.9
Sri Lanka	1.11	20	na
Thailand	1.78	26	2.1
Asia mean	1.50	33	2.3

^aNote: In column 2, costs are expressed in units of country per capita GDP; for example, the spending per student and per annum in Sri-Lanka is evaluated at 1.78 times the per capita GDP of the country.

Source: Mingat (1995).

^bna = not available.

by allowing the private sector to play a larger role in providing education services at the higher secondary and tertiary levels.

The strategic choice here cannot be based on efficiency considerations alone for a fundamental capability such as education. Important concerns arise about the equity implications of a larger role for the private sector, user fees, and the profit motive in education. In the AAEs, basic education has, in fact, been provided largely by the government either free or at highly subsidized rates. By leaving higher levels of education to the private sector and targeting public resources for basic education, AAE governments have addressed the heart of the equity problem in education, ensuring freedom of basic education for all. In fact, available estimates show that public spending in education has been quite egalitarian in the AAEs.

This leaves the question of access to higher levels of education for the underprivileged. In countries where significant sections of the population may still lack basic literacy or numeracy, equity in these capabilities is more urgently needed than equity in access to higher levels of education. The latter is nevertheless desirable, and unequal access to higher education must be clearly recognized as a cost of the private sector oriented strategy. This cost can be minimized through well-designed merit-cum-means scholarships, student loans schemes, and other such interventions, such as those which are in place in the AAEs. Unequal access to

higher education, however, cannot be altogether eliminated.

(d) *Efficiency of resource use*

Reference has been made already to some dimensions of efficiency, i.e. in the allocation of resources between levels of education and the greater reliance on private provisioning, which is more cost-efficient. There are, however, some further dimensions of efficiency where the AAE experience offers important policy lessons for developing countries. These relate to class size and teacher salary. The AAEs typically had very high pupil-teacher ratios, averaging more than 40 at the primary level and close to 30 at the secondary level, when they were at per capita incomes of less than US\$1000 (at 1992 prices). These ratios are much higher than those presently observed in other Asian countries at comparable levels of development. Only when the AAEs became much richer did they gradually reduce the pupil-teacher ratio to levels that are found in the DMCs today, even though the latter have much lower levels of per capita income (Table 6).

Despite this, the achievements of school children in the AAEs have been very high, indeed comparable with those of children in the OECD countries. How was this possible? The answer seems to lie in high teacher salaries. The salary of school teachers in AAEs, relative to average incomes in their countries, has been

much higher than relative teacher salaries in either the other Asian countries or the OECD countries. In other words, teachers have enjoyed a much higher socio-economic status in the AAEs than elsewhere, and presumably this has been reflected in higher teacher quality than elsewhere. As a consequence, teachers have offered quality education comparable with international standards, despite having more pupils per teacher and, therefore, a much lower cost per student. Here again, the strategy pursued by the AAEs would appear to be the reverse of what we see in some DMCs. Through this strategy, and the other efficiency promoting strategies discussed above, the AAEs appear to have quite effectively resolved the tension between the urgent need to develop human resources and the shortage of available resources.

4. HEALTH FINANCING AND SOCIAL HEALTH INSURANCE

(a) *Health policy in asia*

Health status has improved dramatically during the past few decades, cutting across rich and poor countries in Asia as in the rest of the world. Improvements in health are obviously closely correlated with increases in per capita income (Table 7). On the other hand, the economies with the highest per capita incomes in Asia, the AAEs, are also the ones with the most developed health-care systems. There are also

countries with relatively low per capita incomes, such as the People's Republic of China, which have achieved high standards of health comparable to the AAEs. It is reasonable to suggest, therefore, that health policy and health programs have played a significant role, additional to the role of rising incomes, in improving the quality of health across Asia.

In the years following the Second World War, Asian countries faced a large number of serious health problems. Infectious diseases such as malaria and tuberculosis were rampant. The problem was compounded by poverty and malnutrition. High fertility rates and poor birth spacing also threatened the survival of mothers and children. From the 1950s onward, most Asian governments started allocating resources on a large scale to control public health hazards and mitigate their consequences. Large public health-care delivery systems were put in place, funded from budgetary resources and managed directly by departments of health. Vast networks of primary, secondary, and tertiary care were created; physical infrastructure and health manpower expanded greatly; and many populations were given access to modern health-care for the first time.

These public systems gave universal access to health-care in that everyone was eligible in principle to being serviced by the health-care system. Charges were nonexistent or were kept low to ensure that the poor did not face financial barriers to accessing health-care. Governments were clearly motivated by the public good aspect

Table 6. *Pupil-teacher ratio in primary and secondary schooling in Asian countries (1950-92)*

Economy	Primary schooling (%)					Secondary (%)					Higher education (%)					
	Years 19...	50	60	70	80	92	50	60	70	80	92	50	60	70	80	90
Japan		37	35	26	25	20	26	24	20	19	18	27	23	27	24	23
Korea, Rep. of		57	58	57	48	33	30	37	36	39	23	30	24	19	28	28
Singapore		28	33	30	31	26	27	29	20	19	20	na	16	12	10	na
Taiwan		47	44	41	33	26	28	26	24	20	20	10	11	23	20	17
Bangladesh		na	na	46	54	64	na	na	na	24	27	na	na	16	19	19
China, People's Rep. of		33	na	33	27	22	26	na	na	18	18	na	na	4	5	6
Hong Kong		27	30	33	30	28	16	24	22	29	22	na	11	15	12	15
India		35	29	41	43	48	23	16	21	na	25	16	na	20	15	na
Indonesia		52	39	29	32	23	31	15	13	15	14	10	na	12	10	15
Malaysia		33	29	31	27	20	16	25	25	22	19	na	9	15	10	12
Pakistan		33	39	41	36	41	26	24	20	17	19	na	26	34	34	na
Philippines		51	36	29	30	34	26	na	33	34	32	22	27	23	29	na
Sri Lanka		32	31	na	31	29	na	na	19	26	21	25	13	8	9	16
Thailand		36	36	35	23	18	20	20	16	21	17	33	15	8	14	14
Asia mean		38	37	36	34	31	24	24	22	23	23	19	17	17	17	18

na = not available.

Source: Mingat (1995).

Table 7. *Health status and health financing in selected Asian countries*

Economy	GDP per capita 1992 US\$ (1)	Life expectancy at birth			Child mortality rate			Health expenditures as a % of GDP 1991 (8)	Health expenditures per capita (US\$) 1991 (9)	% Health expenditures by public sector 1991 (10)
		1960 (2)	1990 (3)	%Δ (4)	1960 (5)	1990 (6)	%Δ (7)			
Nepal	170	44	56	27.3	279	135	-51.6	4.5	7	48.9
Loa PDR ^a	220	44	50	13.6	232	171	-26.3	2.5	5	40.0
Bangladesh	220	46	56	21.7	251	137	-45.4	3.2	7	43.8
India	310	47	58	23.4	235	127	-46.0	6.0	21	21.7
Pakistan	420	49	56	14.3	222	163	-26.6	3.4	12	52.9
China, Peo. Rep. of	450	43	69	60.5	210	43	-79.5	3.5	11	60.0
Sri Lanka	540	58	72	24.1	140	22	-84.3	3.7	18	48.6
Indonesia	670	46	59	28.3	214	111	-48.1	2.0	12	35.0
Philippines	770	59	64	8.5	103	62	-39.8	2.0	14	50.0
Papua New Guinea	950	57	52	10.6	204	169	-17.2	4.4	36	63.6
Thailand	1840	52	68	30.8	149	36	-75.8	5.0	73	22.0
Malaysia	2790	58	71	22.4	106	20	-81.1	3.0	67	43.3
Korea, Rep. of	6790	53	72	35.8	133	10	-92.5	6.6	377	40.9
Taiwan	9750	64	74	15.6	-	-	-	4.6	405	52.2
Singapore	15730	65	74	13.8	48	8	-83.3	1.9	219	57.9
Japan (wealthiest)	28190	68	79	16.2	37	6	-83.8	6.5	1538	73.8

^aLao PDR = Lao People's Democratic Republic.
Source: World Bank (1993a) and Gertler (1995).

of controlling communicable diseases as well as the redistributive goal of ensuring a minimum level of health-care services for all citizens, irrespective of their levels of income. These goals could not have been achieved if health-care had been left entirely to market forces. The public endeavor also benefited greatly from recent advances in the technology of preventing or curing infectious and parasitic diseases. These were quickly and widely disseminated in Asia and the rest of the developing world at relatively low cost through international public enterprise, led by the World Health Organization.

Within countries, a variety of health-care delivery systems are at work, ranging from comprehensive government-funded health-care systems with the government as provider, to purely privately funded and privately provided health-care. Many countries, including the AAEs, have mandated social insurance systems where governments may subsidize the insurance and implement the system but actual providers are in the private sector. Most developing countries in Asia are using a mix of these systems.

These vast improvements in the development of health-care systems and health status in Asia notwithstanding, major problems remain, starting with the persistence of long-established epidemiological patterns. The infectious and parasitic diseases which have been killing people in the past continue to be the predominant killers, requiring a large continuing role for the public sector in preventive health-care (Griffin

1992). But, the quantum of total resources allocated to health-care, public plus private, in many countries is below the minimum per capita requirement of 1991 US\$416.2 estimated by the World Bank (Table 7). The shortage of resources and inappropriate incentive structures for providers also leads to poor quality of care, especially for poor and rural residents, who account for a large part of developing Asia's population. Moreover, there is a serious misallocation of public resources. The demographic and epidemiological profiles of developing countries in Asia suggest the need for large allocations to child delivery services and preventive primary health-care, which are cost-effective. In practice, however, very large shares of public sector health expenditure are diverted to expensive curative care, including hospitalization and in-patient care. These inherent problems are compounded by severe fiscal pressures in many developing countries, where aggregate concerns such as stabilization and the reduction of fiscal deficits often call for public expenditure compression.

(b) *Risk, adverse selection, and health insurance*

Faced with these fiscal pressures, many Asian governments are now exploring ways of expanding the private share of the cost of health-care. Given the peculiar pattern of health-care consumption, with unanticipated sharp peaks of expenditure during illness, private funding of health-care requires spreading the risk over time for an individual and across many individuals.

This is necessary to smoothen out the cost of health-care consumption and reduce its burden on individual consumers.

Private risk pooling arrangements are not easy to operate, however, because of adverse selection. Healthy persons with lower than average risk of affliction may find the "fair" premiums unfair to themselves and therefore opt out of such systems. On the other hand, insurance providers may want to exclude high-risk consumer groups that need insurance most—such as the old, the chronically ill, or the poor. Often, this leads to a collapse of private health insurance markets.

The failure of health insurance markets requires public intervention. Many developing countries in Asia (such as the People's Republic of China, Indonesia, Malaysia, Mongolia, Thailand, Philippines and Vietnam) have either passed or are actively considering compulsory health insurance legislation and are seeking to establish health-care delivery systems similar to those in place in the AAEs and other economies. In this context, the experience of the AAEs yields a number of policy insights that need to be kept in view while designing health reform programs in the developing Asian countries.

(c) *Compulsory social health insurance: the AAE experience*

The collective experience with mandated social health insurance in the AAEs shows four characteristics that need to be emphasized from the perspective of policy reform in the developing countries.

(i) *Epidemiological demographic transition, and cost inflation*

All the AAEs have undergone an epidemiological transition. In the 1950s and 1960s, infectious and parasitic diseases were still the leading

causes of death in Japan, the Republic of Korea, Singapore, and Taiwan (Table 8). By the early 1990s, however, this disease pattern had changed. Now, the leading causes of death in the AAEs are chronic diseases such as cancer, cardiac or other organ diseases, and cardiovascular diseases. The significance of this transition for health-care financing is the inflation of health-care costs. Infectious and parasitic diseases can be dealt with quite effectively through preventive public health-care programs at relatively low per capita cost. Chronic diseases, which become the leading causes of death after the epidemiological transition, are far more expensive to treat and vastly escalate the per capita cost of health-care.

A second related aspect is the demographic transition that has occurred as a consequence of improved health and rising life expectancy in the AAEs. The changing age composition of population has meant that the ratio of persons in the working (earning) age group to non-earners has been declining. This implies that under the pay-as-you-go health service financing schemes, the number of contributors per noncontributing beneficiary, e.g. children and the aged, has been declining (Table 9). The implication of this demographic transition, combined with the epidemiological transition, is an enormous increase in the cost of health-care to be borne by contributors if the systems are not subsidized at all.

The other Asian countries have not gotten to this stage, as they have yet to make the same epidemiological and demographic transitions. The leading causes of death in these countries still require large preventive health-care programs. These transitions, however, are likely to occur sooner rather than later, and when they do, per capita health costs will escalate sharply. This will make it difficult for pay-as-you-go insurance systems to be self-financing. In other words, even as developing Asia grapples with the

Table 8. *Leading causes of death*

Taiwan		Korea, Rep. of		Singapore		Japan	
1952	1993	1965	1993	1968	1993	1950	1993
Gastro-intestinal	Cancer	Respiratory	Cancer	Infectious	Cancer	Tuberculosis	Cancer
Pneumonia	Cerebro-vascular	Gastro-intestinal	Cardiac	Parasitic	Cardiac	Pneumonia	Heart attack
Tuberculosis	Accidents	Accidents	Organ disease	Tuberculosis	Diabetes	Heart attack	Stroke
Cardiac	Cardiac	Cardiac	Hepatitis/liver	—	—	—	—

Source: Gertler (1995).

problem of large preventive health-care systems, it must start addressing tough problems of financing curative health-care as the countries approach their epidemiological and demographic transitions.

(ii) *Incentives and inefficiency*

Another important aspect of health insurance systems is their failure so far to tackle incentive problems that generate large inefficiencies and constitute yet another source of cost inflation. Once insured, consumers have little incentive to keep the cost of care down, while providers have every interest in providing more service than is actually required — a situation that economists call “moral hazard.” There is also a problem of asymmetric information: consumers are usually not in a position to judge what treatment is actually required and what costs are inessential. Furthermore, these uninformed choices have to be exercised in a context where technical progress is leading to more and more sophisticated, skill-intensive, expensive treatment. The net result is a situation of supply-driven demand. There are ways to deal with this moral hazard problem through deductibles and copayment on the demand side, or monitoring of prescribed treatment and price regulation on the supply side. These measures are addressed below. The point to note here is that while insurance helps to spread risk, at the same time it leads to a major inflation of costs because of inefficiencies built into the incentive structure.

(iii) *Affordability and threshold income*

The characteristics discussed above essentially imply that the cost of health-care escalates very sharply with development, partly because of objective epidemiological factors and partly because of incentive problems built into social health insurance. This raises the question of affordability and ability to absorb rising health-care costs. How did the AAEs manage? It is important to remember that the rising cost of health-care occurred against a backdrop of rapidly rising per capita incomes. Moreover, health insurance was introduced through cautious steps, expanding coverage gradually from the fully organized and government controlled public sector to the rest of the economy. As shown in Table 10, Japan introduced comprehensive health insurance in 1961, when its per capita income was already over 1992 US\$9000. Singapore introduced its health system in 1981 when its per capita income was around 1992 US\$8000. Taiwan did not introduce comprehensive health insurance until March 1995, when its per capita income was close to 1992 US\$10000.

Thus, in these three AAEs compulsory health insurance was only introduced when per capita incomes were already quite high and rising rapidly. Consumers could, therefore, absorb the increase in health-care costs. The Republic of Korea, on the other hand, introduced social health insurance at an earlier stage, when its per capita income was a little over US\$5000 and this was evidently premature. Though everybody is

Table 9. *The demographic transition in selected Asian countries*

Economy	Total fertility rate		% Population age 65+		Support ratio	
	GDP per capita	1991	1991	2025	1991	2025
Nepal (poorest)	\$170	5.5	2.9	4.5	33.5	21.2
Bangladesh	\$220	4.4	0.9	4.8	110.1	19.8
India	\$310	3.9	4.0	8.0	24.0	11.5
Pakistan	\$420	4.6	2.5	4.9	39.0	19.4
China, People's Rep. of	\$450	2.4	6.6	11.7	14.2	7.5
Sri Lanka	\$540	2.5	4.1	12.6	23.4	6.9
Indonesia	\$670	3.0	1.3	8.0	75.9	11.5
Philippines	\$770	3.6	1.7	7.5	57.8	12.3
Papua New Guinea	\$950	4.9	2.5	4.5	39.0	21.2
Thailand	\$1840	2.3	1.7	9.7	57.8	21.2
Malaysia	\$2790	3.7	2.9	8.5	33.5	10.8
Korea, Rep. of	\$6790	1.8	3.9	15.2	23.6	5.6
Taiwan	\$9750					
Singapore	\$15730	1.8	6.4	18.2	14.6	4.5
Japan (wealthiest)	\$28190	1.5	12.3	25.7	7.1	2.9

Source: Gertler (1995).

covered in principle by comprehensive health insurance, the range of services covered is quite narrow in the Republic of Korea. A large number of services are not covered, including the more expensive ones where the need for insurance is greatest. Placed against this background, it is clearly far too early to consider compulsory health insurance in developing Asian countries where per capita incomes are only a tenth of that in the Republic of Korea, or even less. While health insurance is needed, at present there are limits to when and for whom it can be introduced.

(iv) *The importance of the urban organized sector*

Reference was made earlier to the cost inefficiencies of social health insurance and possible measures for containing this. One approach, followed in Japan and in the Republic of Korea to some extent, is to regulate prices on the supply side for a wide array of service and to monitor compliance closely. This requires a very elaborate yet efficient system of information and monitoring. Such information systems are available in the AAEs but not in developing Asian countries, and even in the AAEs there are leakages. Since price is regulated, providers tend to push up the amount of services provided, as in Japan, demand being driven by supply; or the price and provision of the uncovered services, as in the Republic of Korea.

An alternative approach to containing costs is to intervene on the demand side, through deductibles and copayment. A polar case of this is Singapore's Medical Savings Accounts scheme (MSA). Under this scheme, a part of the compulsory provident fund savings are

earmarked for the MSA, and a person's health service costs have to be met out of this. The MSA spreads health risks for the individual over time, but does not pool risks across individuals. Auxiliary provisions of subsidized medical care are provided to cover the poor.

Either of these approaches to keeping costs in check under a mandated health insurance system require close regulation and enforcement, backed by a sophisticated and efficient information system. This condition is satisfied in the AAEs, where populations are now largely urban and are covered in the wage, tax, or social security system. But, it is not satisfied in the other Asian countries, where large segments of the population are still rural. In these countries private funding of social health insurance can be initiated only in the organized sector.

(d) *Some policy conclusions for developing Asia*

The foregoing comparative analysis of health-care scenarios in the AAEs and DMCs suggests that the appropriate health-care financing strategy in the DMCs should be a two-track policy with the following features:

1. Governments should deploy the bulk of their health spending to cost effective preventive health-care.
2. Government initiated and regulated health insurance systems should at the same time be put in place on a self-financing basis for the high-income urban organized sector that may demand and can afford expensive medical care.
3. Coverage of this system could be expanded to other segments of the population in gradual

Table 10. *Initial conditional introduction of universal health insurance in AAEs and other Asian economies today*

Economy (Year achieved universal insurance)	GDP per capita (\$, 1992 prices) (Year achieved universal insurance)	Real GDP growth 1960-92	% Urban, 1994 (Year achieved universal insurance)
Bangladesh	220	1.85	17
China, People's Rep. of	450	5.05	28
India	310	1.90	26
Indonesia	670	3.50	32
Japan (1961)	28 190 (9 290)	6.02	—
Korea, Rep. of	6 790 (5 371)	10.49	74 (65.9)
Malaysia	2 790	3.39	44
Pakistan	420	2.50	33
Philippines	770	1.54	44
Singapore (1986)	15 730 (8 464)	7.90	100 (100)
Sri Lanka	540	2.19	22
Taiwan (1995)	9 750 (9 750)	9.17	57 (57)
Thailand	1 840	5.04	35

Source: Gertler (1995).

steps as per capita incomes rise, as was done in Taipei, China. This process, however, is likely to take decades rather than years. Taipei, China introduced compulsory health insurance only in 1995, after its per capita income had risen above US\$10000.

4. Meanwhile, the public system and public health-care spending could be better targeted to rural and poorer income groups that have less access to private health-care facilities and cannot afford them, since the urban rich would select themselves out of the public system. There is an important equity aspect to this. Public health expenditure would largely benefit the poor, and it would be funded out of revenues raised from the relatively rich. Hence, this system would imply a very significant redistribution of income. On the other hand, excessively sharp targeting may also lead to adverse effects on the quality of service if all powerful interest groups lose interest in the system. Well known incentive problems, common to many public systems, that lead to poor quality of service, would still need to be addressed as part of a larger problem of public sector reform.

5. A CONCLUDING REMARK

The "East Asian Miracle" (World Bank 1993b) had become somewhat of an enigma to observers on the outside until the recent crisis in the region. However, there is nothing particularly mysterious about the East Asian experience. Perhaps the single most important lesson of development history, from the Industrial Revolution to the East Asian "miracle", is that there are neither short-cuts nor miracles. Only good policies, sometimes combined with fortuitous

circumstances such as a new invention or the discovery of new resources, parsimonious habits, and, in the main, a great deal of sheer hardwork and enterprise.

Certainly, policies have mattered a great deal in the advanced Asian economies. Sometimes mistakes were made; sometimes they were corrected, as is now being attempted in the financial crisis. Most often the policies were appropriate for the circumstances in which they were applied. On the whole, it all added up to a recipe for success. The Bank study has attempted to shed light on one important aspect of this recipe: the policies for financing human resource development. Set against the backdrop of policies currently being pursued in many developing countries in Asia, the study has yielded some very useful lessons about which policies made the difference in East Asia. These range from fiscal prudence, the appropriate allocation of public expenditure, and the large role of the private sector to the high priority for primary education, the efficiency of high pupil-teacher ratios combined with high teacher salaries, and the appropriate stage and sequence of introducing mandated social health insurance.

It is neither possible nor desirable to replicate mechanically policies from one country in another. Each country has its own circumstances, history, and culture. Its policies must be sensitive to these specific features. Each country, however, may be able to benefit by applying creatively the lessons from other countries. Just as the advanced Asian countries drew lessons, both negative and positive, from the experience of their predecessors, today's developing countries have much to gain from understanding the experiences of the advanced Asian countries.

NOTES

1. See, however, Srinivasan (1994) and Pyatt (1992) for a dissenting view.

2. The situation in Taipei, China is not clear since expenditure on health and housing and community services is included with social security spending in the available budgetary data. But, responses from inter-

views with concerned officials suggest that the pattern is similar to that in the Republic of Korea.

3. This refers to government or para-statal agencies and large firms organized as modern corporate entities as opposed to family enterprises and small businesses.

4. All per capita income figures in this paragraph are at 1992 prices.

REFERENCES

- Asian Development Bank a (various issues) *Asian Development Outlook*. ADB, Manila.
- Asian Development Bank b (various issues) *Key Indicators of Developing Asian and Pacific Countries*, ADB, Manila.
- Behrman, J. R. (1990) *Human Resource Led Development*. ILO-ARTEP, New Delhi.
- Brennan, G. and Buchanan, J. M. (1981) *The Power to Tax*. Cambridge University Press, Cambridge.
- Chu Ke, Y. and Hemming, R. ed. (1991) *Public Expenditure Handbook: A Guide to Public Expenditure Policy Issues in Developing Countries*. International Monetary Fund, Washington DC.
- Council for Economic Planning and Development (1995) *Taiwan Statistical Data Book*. CEPD, Taipei.
- Gertler, P. (1995) On the road to social insurance: lessons from high performing Asian economies. Paper presented at the *International Conference on Financing Human Resource Development in Advanced Asian Countries*, Asian Development Bank, Manila.
- Gillis, M., ed. (1989) *Tax Reform in Developing Countries*. Duke University Press, London.
- Griffin, C. (1992) *Health-care in Asia: A Comparative Study on Cost and Financing*. The World Bank, Washington DC.
- Grossman, G.M. and Helpman, E. (1994) Endogenous innovation in the theory of growth. *Journal of Economic Perspective* 8(1), 23-43.
- International Monetary Fund (1995) Unproductive public expenditures: A pragmatic approach to policy analysis. Fiscal Affairs Department Pamphlet Series No. 48, International Monetary Fund, Washington DC.
- Llau, L., Jamison, D. and Louat, F. (1991) Education and productivity in developing countries. Policy Research Working Paper No. 612, The World Bank, Washington DC.
- Mingat, A. (1995) Towards improving our understanding of the strategy of high performing Asian economies in the education sector. Paper presented at the *International Conference on Financing Human Resource Development in Advanced Asian Countries*, Asian Development Bank, Manila, November 17-18.
- Mingat, A. and Tan, J. D. (1988) The economic returns to training in development projects. *International Review of Education* 34(2), 000-000.
- Mook, P. (1994) *Education and Agricultural Productivity*. *International Encyclopedia of Education*, Pergamon Press, New York.
- Mundle, S. (1994) Deprivation and Public Policy: Redefining the Development State. Wertheim Lecture, Centre for Asian Studies, Amsterdam.
- Niskanen, W. (1971) *Bureaucracy and Representative Government*. Aldine/Arthurton, Chicago.
- Pack, H. (1994) Endogenous growth theory: intellectual appeal and empirical shortcomings. *Journal of Economic Perspective* 8(1), 55-73.
- Psacharopoulos, G. (1994) Returns to investment in education: a global update. *World Development* 22(9), 000-000.
- Pyatt, G. (1992) There is nothing wrong with the HDI, but... University of Warwick Department of Economics, Warwick, U.K.
- Rao, M.G. (1995) Public expenditure policies in high performing Asian economies. Paper presented at the *International Conference on Financing Human Resource Development in Advanced Asian Countries*, Asian Development Bank, Manila.
- Romer, Paul M. (1994) The origin of endogenous growth. *Journal of Economic Perspective* 8(1), 3-23.
- Sen, A. (1992) *Inequality Reexamined*. The Clarendon Press, Oxford.
- Summers, L. (1992) Investing in all the people. Policy Research Working Paper No. 905, The World Bank, Washington DC.
- Srinivasan, T.N. (1994) Human development: A new paradigm or reinvention of the wheel? Paper presented at the American Economic Association Meeting, Boston, January 3.
- Tan, J.D. and Mingat, A., (1992) Education in Asia: A Comparative Study on Cost and Financing. Regional and Sectoral Studies, The World Bank, Washington DC.
- UNDP (various years) Human Development Report. Oxford University Press, New York.
- Wagner, A. (1958) Three extracts on public finance. In *Classics in the Theory of Public Finance*, ed. R. A. Musgrove and A.I. Peacock, Macmillan Press, New York.
- World Bank (1992) World Development Report: Development and the Environment. Oxford University Press, New York.
- World Bank (1993a) World Development Report: Investing in Health. Oxford University Press, New York.
- World Bank (1993b) *The East Asian Miracle: Economic Growth and Public Policy*. Oxford University Press, New York.
- World Bank (1994) World Development Report: Infrastructure for Development. Oxford University Press, New York.
- United Nations Educational, Scientific and Cultural Organisation, International Yearbook of Education (various editions).