

Saving, Investment and Growth: Recent Asian Experience

The importance attached, by economists and governments, to a high saving rate in developing countries derives mainly from two assumptions which have for long dominated economic thought. One is the view, which goes back to Adam Smith but received its sharpest formulation in the Harrod-Domar equations, that the rate of economic growth is a function of the rate of investment. The other is that a country's rate of investment is constrained by its domestic saving rate which, in turn, depends on the level of per capita income – hence the “vicious circle” of poverty. Neither assumption has stood up well to the evidence of development experience.

The contribution of saving to growth

The traditional view which ascribed a key role as a determinant of economic growth to capital formation has been increasingly shaken since the studies of the 1950s by Denison and others (Denison *et al.* 1962) which suggested that capital formation (and indeed factor inputs of both capital and labour) seemed to explain a relatively small part of cross-country differences in growth rates, the major part having to be attributed to growth of total factor productivity due to ill understood “residual factors” including, among others, technical progress, improvement in resource allocation and in human capital (skills, management, entrepreneurship) and structural change. No one doubts that a substantial rate of investment, in fixed capital and inventories, is necessary for sustained economic growth, but no one now believes that by itself it can assure such growth.

The statistical evidence from cross-country comparisons tends to confirm some correlation between high investment ratios and high growth rates, but there is an identification problem – which is cause and which effect? – and, in any case, the correlation is weak. A recent study based on a sample of 55 developing countries suggests that for an average economy the domestic savings ratio would have to increase from the actual 19% to almost 29% of GDP in order to raise the steady-state per capita output growth by one percentage point a year (Otani and Villanueva 1988, cited in Chandavarkar 1990, p. 12). During the 1980s, if the figures are to be believed, Singapore secured a growth rate of 6% with an investment ratio of 42%; India achieved the same growth rate with an investment ratio of 22%. In Bangladesh an investment ratio of only 11% was associated with an average growth rate of 4%; in Indonesia an investment rate of 29% yielded an average growth rate only one percentage point higher.

The second assumption, that the rate of investment (and therefore growth) is constrained by a country's saving rate (and therefore level of income) was challenged as long ago as the mid-1950s by Arthur Lewis in his *Theory of Economic Growth*. "No nation is so poor that it could not save 12% of its national income if it wanted to; poverty had never prevented nations from launching upon wars, or from wasting their substance in other ways" (Lewis 1955, p. 236). Or, as he put it later (1982, pp. 105-6), "the savings ratio is not an obstacle. It depends endogenously upon the rate of growth; it is low when the growth rate is low, as in contemporary USA, and high when the growth rate is high, as in contemporary Japan. In a mature economy, productive investment gets the first call on savings, in the sense that entrepreneurs can always raise the money needed to finance productive investment". Sundrum, after citing this passage, has spelled it out further: "It is not the domestic rate of savings which determines the level of investment in a country. Instead, it is more likely to be determined by the expectations that entrepreneurs hold about the future profitability of their investments" (Sundrum 1990, p. 71).

The force of this argument, even if it is accepted as broadly valid, should not be exaggerated. It does not imply that there is no need for developing countries to worry about their domestic saving rate. It may be true that no country is so poor that it cannot save 12% "if it wants to"; the trouble is that in many poor countries (and some rich ones) the political will and capacity is lacking. And as Lewis

himself pointed out in the passage just quoted, "if there is not enough saving for all the intended projects, public and private, it is the public sector which runs short. The country then borrows from abroad – fast growers can always borrow" (Lewis 1982, p. 106). In other words, even if an enterprising private sector can always raise the money it needs, public investment for social and economic infrastructure may require a sustained effort to mobilise domestic savings; and, as Latin American and other experience in the past two decades has shown, borrowing abroad is not a costless way out.

The large literature on the determinants of domestic saving rates and how they might be raised by appropriate policies, which has recently been surveyed in relation to the Asian developing countries (ADCs) (Fry 1989, ADO 1990), is still relevant, but it needs to be seen in broader, and perhaps more modest, perspective. It is not obvious that higher saving rates are desirable in all developing countries. There is nothing economics can tell us about the "optimum" saving rate since it implies a value judgment about inter-generational transfers. What is the optimum saving rate for Japan, or for that matter for Taiwan or Singapore, over the next few decades? The answer here may depend in part on judgments about North-South transfers.

Lewis's just-quoted reference to borrowing abroad points to what is perhaps the most important reason for favouring and promoting a high domestic saving rate: a higher domestic saving rate reduces a country's dependence on foreign saving.

Of the 17 ADCs listed in ADO 1990, only six had current account surpluses in 1988. All others had deficits, that is, part of their domestic investment was financed from foreign saving. That, of course, is not necessarily a bad thing. Developing countries are, almost by definition, short of capital. Most are able to attract some private capital inflow on internationally competitive terms, whether through loans or in the form of direct foreign investment. The poorer ones depend largely on official development assistance on concessional or grant terms. But all capital inflow involves some cost, financial or political.

A current account deficit may be the necessary mechanism of transfer of capital to the developing country. Conversely, a country may borrow abroad to finance a current account deficit that reflects inadequately controlled domestic excess demand or inadequate international competitiveness, a situation of which some developed

countries, such as the USA and Australia, at present provide the most telling illustrations but which is also not uncommon among developing countries. In such circumstances, as the burden of external debt service increases, the cost can become very high. Policies to raise the domestic saving rate then deserve high priority.

The efficiency of investment

The smaller the importance of high saving and investment rates for economic growth, the greater the importance of the efficiency of investment. This, in itself merely obvious, identity is the rationale of the incremental capital-output ratio (ICOR) as a broad overall measure of the efficiency of investment.

Table 1 shows the ICORs for 14 ADCs based on their average investment ratios and growth rates during the 1980s as given in ADO 1990. The table has some surprising features. Over the decade as a whole, the countries of South Asia had on average lower ICORs (implying greater efficiency of investment) than the East Asian NIEs, most strikingly illustrated by the contrast between Singapore's av-

INCREMENTAL CAPITAL-OUTPUT RATIOS, ADCS 1981-89

TABLE 1

	Investment (average 1981-89)	Growth Rate (average 1981-89)	ICOR
Hong Kong	27.5	6.5	4.2
Korea	29.8	9.0	3.3
Singapore	42.8	6.0	7.1
Taiwan	23.7	7.8	3.0
average			4.4
Indonesia	28.8	4.9	5.9
Malaysia	30.3	5.0	6.1
Philippines	20.2	1.7	11.9
Thailand	25.4	6.7	3.8
average			6.9
Bangladesh	11.7	4.2	2.8
India	22.3	5.8	3.8
Nepal	19.9	4.9	4.1
Pakistan	18.5	6.5	2.8
Sri Lanka	24.6	4.1	6.0
average			3.9
China	31.5	9.8	3.2

Source: ADO 1990.

erage ICOR above 7 and India's below 4. The other four ASEAN countries had the highest average ICORs, China the lowest of any ADC (except Pakistan).

As measures of investment efficiency, these figures need to be treated with a great deal of caution. Apart from the dubious character of the statistics – using the World Development Report (WDR) figure in place of ADO's for Indonesia's investment ratio, for example, brings down the ICOR from 6 to 4 – the overall ICOR for a whole national economy reflects, and hides, many complex economic facts and relationships. Given the inevitable lag with which capital formation yields its fruits in terms of higher output, a rise in the investment ratio must be expected to raise the ICOR for some time; any temporary external shocks, such as the domestic repercussions of a fall in the terms of trade, will have the same effect. The ICOR implicitly attributes growth of output to the increment in the stock of physical capital due to new investment and therefore neglects the contribution of more effective use of the total existing stock that better policies may bring about or of new investment in human capital. Again, the average ICOR for the whole economy may change because of changes in the productivity of individual sectors or industries due to technical progress or improvements in organisation, but also because of structural changes in favour or against high-ICOR sectors or industries.

The hazards of relying on overall ICORs as measures of the efficiency of investment are well illustrated by the contrasting cases of India and Singapore. India's experience during the 1960s and 1970s, when its ICORs were notoriously high, reflecting modest growth rates despite quite high investment ratios, has recently been carefully examined by Sundrum. He mentions three factors which contributed to the high overall ICORs:

a) overstatement of the rate of growth of investment in fixed capital because of rapidly rising prices of capital goods (the investment ratio rose by 14 percentage points at current prices but by only 9 points at constant prices);

b) the large component of total investment consisting of accumulation of stocks which was almost certainly greatly overstated in the national accounts (total additions to stocks during the period equalled nearly half of GDP in 1980-81, implying an improbably high inventory ratio); and

c) the large proportion of fixed investment in buildings which did not contribute much to growth of GDP (Sundrum 1987, p. 94).

Sundrum shows that, in part, the rise in the overall ICOR during the three decades 1951/2-1981/2 was due to structural change, shifts in the sectoral composition of aggregate investment towards more capital-intensive sectors. But there were also large increases in the ICORs of individual sectors, even in agriculture and services but particularly in manufacturing and mining where the ICOR rose from 4 in the 1950s to 10 in the 1970s. This undoubtedly reflected a decline in the efficiency with which capital was used. As was pointed out in ADO 1990, "the steady increase in ICORs over the second and third plans occurred during a regime of inward looking import substituting policies with an accent on heavy industry and the public sector... Economic activity was steered largely by direct physical controls" (ADO 1990, p. 138). The marked decline in India's overall ICOR during the 1980s, resulting from more rapid growth with an unchanged investment ratio, is in turn generally attributed to the process of liberalisation which got under way in the late 1970s and early 1980s. Selective relaxation of direct controls, an enhanced role for the private sector, export promotion and priority for completion of on-going projects have been among the policy initiatives aimed at enhancing competition and improve efficiency (*ibid.*) A measure of the success of these policies was a decline in the ICOR of the industrial sector from the peak of over 10 in 1975 to just over 5 in 1987.

Singapore's overall ICOR rose from 4.5 in the 1970s to over 7 in the 1980s. The most obvious reason was the recession of the mid-1980s, with two virtual no-growth years, the fortuitous result of a combination of factors – the oil price slump which hit Singapore's refinery and oil supply centre industries, the collapse of an excessive construction boom and a misconceived policy of forcing up wages. In the last years of the decade (1987-89) Singapore's ICOR was back to 4. But even this was markedly higher than the average for Taiwan and even Korea, let alone Pakistan and Bangladesh. Singapore stands out with by far the highest saving rate among AMCs, if not in the world, much of it forced saving through the Central Provident Fund. The results are visible in a splendid urban infrastructure, mass housing and the high-rise monuments of an international financial and commercial centre. Perhaps the welfare yield is not fully captured by GDP

growth. But it is arguable that Singapore has been oversaving. In the words of one observer, little attention has been given to "the choices that the state can and should make on inter-generational and inter-temporal issues, such as the limits of forced savings for the next generation or old age, or the extent to which this generation should finance multi-generational infrastructure" (Cheng 1989).

Recent developments

With respect to their saving and investment performance, the market economies among ADCs continue to fall into three fairly distinct groups. The east Asian NIEs (Newly Industrialising Economies: Hong Kong, Korea, Singapore, Taiwan) stand out with some of the highest domestic saving rates in the world and in recent years with large current account surpluses signifying export of domestic savings. The countries of south Asia, with the exception of India, have low domestic saving rates, substantially supplemented in some cases by net factor income from abroad in the form of worker remittances. But some of them, especially Pakistan and Sri Lanka as well as India, have fairly high investment rates and therefore large resource gaps financed by drawing upon foreign saving. The ASEAN "other four" (Indonesia, Malaysia, Philippines and Thailand) form an intermediate group with moderate domestic saving rates but lower national saving rates (because of considerable debt service) supplemented by capital inflow to finance rates of investment well above the world average.

All the NIEs except Singapore have in recent years run into economic difficulties, partly reflecting political instability. These have slowed down their economic growth and reduced their domestic saving rates and current account surpluses. In *Hong Kong* the shadow over private investment of the return to China in 1997, only partially offset by large public investment projects, is expected to reduce the growth rate from its 1989 peak of 10% to 7% in 1992 and the current account surplus from 6.4% of GDP in 1987 to 3.8% in 1990. Much of the recent capital outflow is believed to represent a shift of private capital from domestic to foreign investment. In *Korea*, growth of GDP, after falling off in 1989, is expected to be well maintained,

thanks to a boom in private construction and equipment investment and buoyant consumption, but export growth has slowed down following appreciation of the won (and recent depreciation offset by domestic inflation). The result has been a dramatic decline in the current account surplus from 7.7% in 1988 to 0.2% in 1990. *Singapore* continues to experience robust growth, sustained by uniquely high investment rates (which declined somewhat between 1985 and 1989 but are expected to recover in the next two years). Still higher domestic saving rates, together with some net income from abroad, continue to yield surpluses of saving for gross capital export which outweighs significant inflow of direct foreign investment sought chiefly for technology transfer. In *Taiwan* GDP growth slowed down from 12.3% in 1987 to 4.5% in 1990. The recession reflects a marked slowdown in private investment which the government is trying to counter by a massive public construction program and weaker exports following appreciation of the NT dollar. At the same time, the domestic saving rate has declined, from 38% of GDP in 1987 to under 30% in 1989, possibly the result of a wealth effect on consumer spending arising from the stock exchange and real estate boom of the last few years. The result has been a sharp contraction of Taiwan's huge current account surplus, from nearly 20% of GDP in 1986 to less than 8% in 1990.

Among the ASEAN group, *Indonesia's* reported domestic saving and investment rates of around 30% of GDP are remarkably high for a low-middle income country. Thanks to prudent macroeconomic policies and far-reaching market-oriented reforms, Indonesia has in recent years achieved one of the highest growth rates among ADCs, and private and ODA (Overseas Development Assistance) capital inflow has covered a resource gap which, despite considerable debt service, has been kept down to 1-2% of GDP. *Malaysia* has achieved even higher domestic saving rates, as high as 37% of GDP in 1987. But large external debt service has meant lower national saving rates, and strong growth of domestic investment, as well as (public and private) consumption, has turned a positive resource gap of nearly 8% of GDP in 1987 into a negative one of 4% in 1990. In the *Philippines*, domestic political instability has militated against economic recovery. The economy is estimated to have grown at around 5-6% per annum during 1987-89, but the growth rate is estimated to have dropped to under 3% in 1989, and the domestic saving and investment rates have hovered around 15%. Substantial

worker remittances have largely offset high debt service until recently, leaving the current account close to balance. *Thailand* continues to enjoy rapid economic growth based on a high rate of private investment to which large inflow of foreign capital is making so large a contribution that, despite a widening trade gap, international reserves have increased. But debt service has outweighed remittances and other factor income from abroad, so that national saving has consistently fallen short of domestic investment, and there is concern about the rising burden of external debt.

India has for more than a decade achieved investment and saving rates unusual for a country with such low per capita income and, while much of this effort was earlier dissipated in high ICORs, the latter 1980s, with economic reform and good monsoons, brought better growth rates of GDP. But in the past two years, a stagnant domestic saving rate (chiefly due to declining public saving) has increasingly fallen behind the rate of domestic investment, as evidenced by growing current account deficits financed by heavy overseas borrowing. All other south Asian countries (*Bangladesh, Pakistan, Sri Lanka, Nepal, Burma*) have domestic saving rates rarely much above 10%. Political instability in most of them has hampered efforts at economic reform and discouraged private investment. The domestic investment rate has declined in all of them in recent years, sustained above, and in some cases very much above, the domestic saving rate, partly by worker remittances but mainly by ODA, multi-lateral and bilateral aid. The same applies to *Papua New Guinea*, except that mineral development has attracted considerable direct foreign investment and kept up the investment rate.

Future prospects

The economic prospects for the ADCs, as for the world as a whole, are more than usually clouded by uncertainty in the aftermath of the Gulf war. While the price of oil has receded from its 1990 peak, forecasts – with their far-reaching implications for oil exporting as well as oil importing countries – range between \$10 and \$30 per barrel. The prospects for the Middle East settlement and its consequences for the price of oil, in turn, affect the likely degree of slowdown of economic growth in the USA and other OECD countries and

therefore also the prospects for economic growth and exports in the ADCs, both directly and through the level of protectionist pressures.

But saving and investment rates do not fluctuate greatly from year to year. Rather than speculate on hardly predictable changes in 1991 and 1992, it is more useful to focus attention on medium-term trends, and here the evidence points to an unmistakable conclusion. Table 2 shows that in the ADCs for which adequate data are available there has in recent years been a declining trend in saving relative to investment rates, implying decline in current account surpluses for surplus countries and increasing deficits for deficit countries, and this trend is expected to continue in the next few years.

There are exceptions. In Indonesia, according to available estimates, the trend in saving and investment rates has been upward in tandem, and in Singapore the domestic saving rate has recovered strongly from a dip in the mid-1980s. For several ADCs, such as Bangladesh, Sri Lanka and Burma, the estimates for 1990 and fore-

TABLE 2

RESOURCE GAP, ASIAN MARKET ECONOMIES 1981-92

	$\left(\frac{\text{GDS}-\text{GDI}}{\text{GDP}} \right)$											
	81	82	83	84	85	86	87	88	89	90 ^a	91 ^b	92 ^b
Hong Kong	-3.6	-3.6	-2.0	-4.2	-5.6	-4.6	5.9	-5.0	6.4	7.1	5.8	
Korea	0.9	-0.4	-3.7	-0.9	-2.0	-0.2	7.1	7.7	2.1	-2.2	-2.3	-2.1
Singapore	4.6	5.6	2.9	3.2	1.9	-0.7	-0.7	3.9	6.7	6.8	6.9	6.7
Taiwan	0.7	19.2	6.1	7.8	13.8	19.8	17.0	11.1	7.8	6.5	5.1	
Indonesia	9.6	-5.4	0.3	3.5	1.8	-1.7	1.5	2.6	-1.9	-1.7	-1.3	
Malaysia	-6.2	-8.7	-3.8	1.9	5.1	6.1	13.9	10.3	5.6	2.9	1.2	2.8
Philippines	-6.5	-5.7	-4.2	1.8	2.4	3.6	2.8	1.5	-0.4	-3.6	-5.3	-6.9
Thailand	-4.8	-2.5	-4.7	-3.6	-3.4	0.2	-0.9	1.0	0.1	0.1	0.2	0.2
Bangladesh	-10.0	-8.0	-6.4	-5.9	-7.8	-11.9	-10.0	-10.1	-11.3	-10.5	-9.0	-8.7
India	-1.7	-1.5	-2.1	-1.4	-2.4	-1.8	-2.1	-2.9	-2.6	-2.0	-1.9	-1.8
Burma	-5.1	-7.1	-3.7	-3.5	-4.0	-1.6	-3.7	-2.1	-0.2	-0.5	-0.4	
Nepal	-6.7	-7.9	-9.5	-8.7	-11.0	-9.7	-9.2	-9.7	-12.2	-12.7	-14.1	-15.1
Pakistan	-9.5	-11.0	-10.3	-10.6	-12.0	-7.9	-8.5	-8.8	-8.1	-8.0	-7.5	
Sri Lanka	-16.1	-19.2	-15.5	-6.9	-10.9	-12.2	-10.5	-10.8	-9.5	-9.8	-8.2	-7.2
PNG	-18.7	-21.2	-17.4	-13.9	-10.5	-7.8	-6.4	-5.3	-10.4	-10.5	-16.5	-7.6

Source: Korea, Philippines, Thailand, Bangladesh, India, Nepal 1987-92: ADO 1991 (Country Papers). Singapore, Malaysia 1990-92, Papua New Guinea 1989-92: ADO 1991 (Country Papers). Indonesia 1990-92: *Bulletin of Indonesian Economic Studies* (BPS, Jakarta). All others: ADO 1990.

a = estimated; b = projected; GDS = Gross Domestic Saving; GDI = Gross Domestic Investment.

casts for 1991 and 1992, suggesting stable or even improving resource gaps, may reflect hopes rather than expectations of official forecasters. But there is no doubt about the overall picture. The large surpluses of the east Asian NIEs are shrinking and the deficits, especially of the countries of south Asia, are increasing. Because of the declining receipts of worker remittances in the wake of the Gulf crisis, the decline in national saving rates (not shown in the table) is even more pronounced.

What makes this fact particularly significant and ominous is that it is part of a larger, world-wide, phenomenon – a growing shortage in world savings. To quote a recent authoritative comment: “In the last few years, economists and others have become acutely aware of the inadequacy of the world’s savings. In many developing countries, the ratio of investment to GDP has fallen by a third compared to the level prevailing in the 1970s, as national savings had to be sent abroad for service of the debt, domestic capital sought a refuge abroad and capital inflow ceased. At the same time, the United States swallowed a large part of the savings in the rest of the industrial world, as reduced private US saving and a persistent government deficit created a huge current account deficit. On top of this, the developments of the past year have laid bare an enormous need for investment in Central Europe and the Soviet Union ... In the industrial countries, the ratio of aggregate saving to GDP in the 1980s was about 20%, as against 25% in the early 1970s. Although savings rates differ widely among countries, their decline was universal, with some of the largest declines in Japan and Germany” (Polak 1990, p. 18).

Both in Germany and Japan declining saving surpluses reflect chiefly increasing domestic investment demand, public and private. But in Japan the household saving rate is expected to decline from its high level, as consumption catches up with slower growth of income and as the ageing of the population reduces net life-cycle saving (Horioka 1990, Maki 1990). Nor is there as yet much evidence of recovery in the US household or public saving rate.

On a longer historical perspective, what is at issue is balance between the capital needs of developing countries and the capital surpluses of developed countries. Throughout the 19th century, Great Britain (and later and in smaller degree other countries of western Europe) supplied much of the capital required for the economic development of the United States and other non-European resource-rich countries. In the first half of the present century, the

United States became the chief supplier of the external capital resources demanded by the now developing countries of Asia, Africa and Latin America. In the last two decades, while the United States (and some other OECD countries, such as Australia) became large capital importers, their demand was met from the saving surpluses of Japan, Germany and the east Asian NIEs. The question now is how the capital demands of the developing countries, as well as those of the USSR and eastern Europe and the post-war Middle East, on top of the continuing absorption of savings by the United States, are to be met.

Much of the excess demand for capital is likely to be confronted by credit rationing, as countries with poor credit ratings find themselves unable to borrow. But the immediate symptom of world-wide excess demand for capital, already in evidence, is rising interest rates. Developing countries, especially those with already serious debt burdens, will find it increasingly difficult to finance their current account deficits, and rising costs of borrowing are bound to heighten the danger of a looming debt trap. The danger is not as serious for the ADCs as for other developing countries, though some of the south Asian ones and the Philippines share the latter's difficulties. But rising costs of capital are bound to complicate the problems of economic development everywhere.

The most urgent need is to raise household and government saving rates in the USA and other industrial countries. But the developing countries, including the ADCs, can help themselves by reducing their dependence on foreign savings. This means encouraging domestic private saving through appropriate policies of financial development and government saving through more effective tax policies and greater economy in government consumption expenditure. It also, and perhaps even more urgently, means increasing the efficiency of investment, in other words, making more effective use of scarce capital.

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