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Thailand's Development Strategy and Growth Performance

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Abstract

Thailand's development strategy has been strongly market-oriented and open to trade and investment flows with the rest of the world. Since the late 1950s, its growth performance has been outstanding. Poverty incidence has declined dramatically, but economic inequality has increased. Economic progress has been reflected in very significant improvement in non-economic indicators of well-being such as life expectancy, infant and maternal mortality, and literacy. Nevertheless, the performance of the education system is chronically poor. Environmental problems and institutional failures in resource management are ongoing. Reform is needed in several areas, including political and corporate governance, regulation of industry, and in the education and health systems.

Keywords: Thailand, development strategies, growth

JEL classification: O10, O16, O20, O53

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Tables and figures appear at the end of the paper.

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1 Introduction: Thailand's development strategy

The countries of South East Asia have employed quite different development strategies and the outcomes have been diverse as well. An interesting comparison is between Thailand and neighbouring Burma/Myanmar. The two have similar natural resource endowments and only half a century ago these two countries were similarly impoverished. The development strategies employed since then and their subsequent economic outcomes could hardly be more different. Thailand has prospered under its globalizing strategy, while its insular neighbour has stagnated. The countries of South East Asia provide several natural experiments of this kind. To extract their lessons, the individual country experiences must be examined closely. This paper attempts this for Thailand.

Thailand is unusual among middle-income developing countries in several respects. First, the country was never colonized, a unique experience within South East Asia. Second, and perhaps partly because it was never colonized, Thailand has not been afraid to embark on deep trade and investment integration with the rest of the world. Its trade and investment policies have been relatively open and its macroeconomic policies have generally been conservative and directed towards maintaining economic stability. The lead-up to the Asian crisis of 1997-98 was a notable exception to that description and, as we will see, the crisis was a serious though not catastrophic setback in Thailand's long-term economic growth.

2 Long-term economic growth

At the end of the Second World War Thailand was one of the world's poorest countries. Its economy had been stagnant for at least a century (Sompop 1989) and it had suffered significant war damage. Most economic observers of the time rated its prospects poorly (Ingram 1971). By the mid-1990s, half a century later, these negative assessments had been replaced by euphoric descriptions of Thailand as a 'Fifth Tiger', following in the footsteps of Korea, Taiwan, Hong Kong, and Singapore. Thailand was widely considered a champion of sustained development, having achieved a combination of rapid growth, macroeconomic stability, and steadily declining poverty incidence, extending over several decades. The twin currency and banking crises of 1997-99 interrupted this process, eroding some of the gains that had earlier been made, but subsequent recovery has restored Thailand's long-term growth path.

This growth performance is summarized in Figure 1, showing the level of real GDP per capita in each year (vertical bars) and its growth rate (solid line) for the period 1951 to 2006. The figure identifies four periods of Thailand's recent economic history: (1) Pre-boom (until 1986); (2) boom (1987 to 1996); (3) crisis (1997 to 1999); and (4) recovery (2000 to 2006). Over the period 1968 to 1986, the average annual growth rate of Thailand's real GNP was 6.7 per cent (almost 5 per cent per person), compared with an average of 2.4 per cent for low and middle-income countries (World Bank 1998). Then, over the decade 1987 to 1996 the Thai economy boomed. It was the fastest growing in the world.

As we shall see below, Thailand's boom was driven by very high levels of investment, both domestic and foreign, in physical capital. Even more remarkable than the rate of

growth over this long period was the stability of the growth. Not a single year of negative growth of real output per head of population was experienced over the four decades from 1958 to 1996, a unique achievement among oil-importing developing countries. Thailand's performance was often described as an example others might emulate. Its principal economic institutions, including its central bank, the Bank of Thailand, were often cited as examples of competent and stable management.

The crisis of 1997-98 reversed these assessments. Domestically, the economy was in disarray: output and investment were contracting; poverty incidence was rising; the exchange rate had collapsed, following the decision to float the currency in July 1997; the government had been compelled to accept a humiliating IMF bailout package; the financial system was largely bankrupt; and confidence in the country's economic institutions, including the Bank of Thailand, was shattered. Internationally, Thailand was now characterized as the initiator of a 'contagion effect' in Asian financial markets, undermining economic and political stability and bringing economic hardship to millions of people.

The economic damage done by the crisis of 1997-99, and the hardship that resulted were both substantial. The crisis eroded some of the gains from the economic growth that had been achieved during the long period of economic expansion, but it did not erase them. At the low point of the crisis in 1998 the level of GDP per capita was almost 14 per cent lower than it had been only two years earlier, in 1996. Nevertheless, because of the sustained growth that had preceded the crisis, this reduced level of 1998 was still higher than it had been only five years earlier, in 1993, and was seven times its level in 1951.

Since the crisis, Thailand's economic recovery has been moderate. The rate of growth of real GDP has been somewhat below its long-term trend rate and it was not until 2003 that the level of real GDP per capita had recovered to its pre-crisis level of 1996. Foreign direct investment (FDI) has declined dramatically since 1998 and private domestic investment has remained sluggish. Despite the slower than expected recovery, in 2006 the level of real economic output per person was 19 per cent above its 1996 pre-crisis level and almost 10 times its level 55 years earlier. The average annual rate of growth of real GDP per person over this entire period of five and a half decades was 4.2 per cent.

Figures 2 and 3 place the last two decades in a comparative East Asian perspective. Data on real GDP are presented for eight East Asian economies, including Thailand. The pre-crisis period of 1986 to 1996 is covered in Figure 2, with each country's 1986 level of real GDP indexed to 100. The crisis and post-crisis periods of 1996 to 2006 are shown in Figure 3 with 1996 real GDP this time indexed to 100. Figure 2 shows that Thailand's boom was the largest of the countries shown, but only marginally so. Singapore, Malaysia, Indonesia, Korea, and Taiwan were not far behind.

Figure 3 shows that in 1998 serious contractions occurred in Korea, Malaysia, and Indonesia, but that, relative to 1996, Thailand's initial contraction was the most severe. Along with Indonesia, its contraction has also been the most long lasting. Thailand's contraction was initially larger than Indonesia's, but Indonesia did not experience a recovery as large as Thailand's in 1999. It is commonly said that Indonesia's economic crisis was more severe than Thailand's, but these data reveal a somewhat different story. Using the pre-crisis year of 1996 as a base, their time paths of real GDP, relative to the

1996 base, were remarkably similar. The main difference is that since 2002 Indonesia's recovery has been marginally slower.

3 Sources of aggregate growth

Where did Thailand's economic growth come from? Explaining long-term growth involves distinguishing between the growth of the factors of production employed and the growth in their productivity. We now discuss a growth accounting exercise for Thailand, covering the years 1980 to 2002. The present section presents this analysis at an aggregate, economywide level and the following section disaggregates the analysis by major sector.

The assumption being made in this kind of analysis is that output was primarily supply-constrained—aggregate demand was not the binding constraint on output. This assumption seems reasonable for the period prior to the Asian crisis of 1997-99, but the crisis and recovery periods from 1997 onwards were characterized by a deficiency of aggregate demand. A growth accounting framework, which focuses on the determinants of aggregate supply, is therefore of limited relevance for such periods. The data relating to that period are included here mainly for completeness.

Data on labour inputs are adjusted for changes in the quality of the workforce by disaggregating the workforce by the educational characteristics of workers and weighting these components of the workforce using time series wage data for the educational categories concerned. Data on land inputs are similarly adjusted for the changing quality of land inputs by disaggregating by irrigated and non-irrigated land and then reaggregating these components using data on land prices. In Table 2, the resulting estimates of factor growth rates are contained in the first column. The second column provides average factor cost shares over time, compiled from factor price data. These factor cost shares impose the assumption of constant returns to scale. The factor cost shares used in the calculations vary over time. The summary data shown in the table are the averages of these shares.

The third column on factor contributions to growth weights the growth rates of factors by their cost shares, producing an estimate of the degree to which the growth of output (6.01 per cent) is attributable to growth of each component. These data are then used to calculate total factor productivity growth as a residual. The final column shows the estimated percentage contribution of each component to the overall growth rate.

The outstanding point is the rapid growth of the physical capital stock. The capital stock grew more rapidly than output in both the pre-boom and boom periods. This growth of the capital stock accounted for 70 per cent of the growth of output. Growth of the size of the labour force contributed about 15 per cent of the growth of output, but improvements in the quality of the labour force made only a modest contribution, explaining less than 5 per cent of overall growth. Indeed, the performance of its educational sector has been among the weakest in East Asia. Secondary school participation rates were low and did not improve greatly during the pre-boom and boom periods (Sirilaksana 1993). Similarly, since the 1960s the expansion of the cultivated land area has been small. Growth of the stock of land was not the source either. Total factor productivity (TFP) growth was only moderately important, accounting for 10 per cent of output growth.

It is perhaps unsurprising that the explanation for Thailand's impressive growth lies primarily with growth of the physical capital stock. Both domestic and foreign investment grew rapidly, but the growth *rate* of foreign investment was larger, from about 1987 (Warr 1993). Foreign investment plays an important role in introducing new technology and in development of export markets. Nevertheless, the quantitative importance of foreign investment in Thailand's capital stock accumulation is easily exaggerated. Figure 4 makes this point by decomposing Thailand's total annual level of investment into three components: domestic private, public, and foreign direct investment. It does this for each of four years, 1975, 1985, 1995, and 2005. Of these three components, domestic private investment is by far the largest and FDI by far the smallest. In 2005 their percentage contributions to the overall level of investment were: private domestic -69.5, public -26.8 and FDI -3.7. Private investment by Thais themselves was the dominant contributor to overall capital accumulation.

How was the investment financed? Did the funds come from domestic savings or from borrowings from abroad? Table 3 presents an accounting of this issue based on the identities that: (i) total investment = household savings + government savings + foreign savings; and (ii) foreign savings = long-term capital inflow + short-term capital inflow - change in international reserves of the central bank. By far the most important source of finance was the private savings of Thais themselves.

Contrary to the common perception that Thailand's boom (1987 to 1996) was financed largely by foreign capital, this source, consisting of private FDI plus foreign government investment by the Overseas Development Assistance (ODA), accounted for an average of only 5 per cent of total investment. During the pre-boom period, FDI accounted for about 61 per cent of this inflow of long-term foreign capital and ODA accounted for the other 39 per cent. During the boom period, these proportions were 73 and 27 per cent, respectively. Short-term capital inflows, consisting of borrowing from abroad plus portfolio inflows plus domestic bank accounts held by foreigners were a more important source, accounting for 23 per cent of total investment. During the boom, government dissavings (budget deficits) reduced the funds available for investment by 11 per cent and increases in the international reserves of the Bank of Thailand reduced it by a further 9 per cent.

It is instructive to compare the boom period (1987 to 1996) with the pre-boom period (1973 to 1986). The major difference was in the proportion of total investment that was financed by short-term capital inflows. This proportion increased from 2 per cent before the boom to 23 per cent during the boom. It financed investment, but it also sowed the seeds of the crisis of 1997-99. The accumulated stock of mobile foreign-owned capital grew to levels far exceeding the stock of the Bank of Thailand's foreign exchange reserves. If the owners of these funds chose to withdraw them from Thailand, the Bank of Thailand would be unable to defend its fixed exchange rate. This is precisely what happened in July 1997 (Warr 1999; 2005).

In summary, growth of the physical capital stock was the most important contributor to Thailand's aggregate growth, accounting for 70 per cent of all growth over the period 1981 to 2002. Most of this investment was financed from Thai domestic private savings. The notion that Thailand's accumulation of physical capital was financed by FDI and/or foreign aid is a myth. Total foreign capital inflows, FDI plus ODA accounted for only about 5 per cent of total investment. ODA was less than one third of this foreign capital

inflow. That is, the quantity of ODA explains only 1.5 per cent of total investment over this period, and thus under 1 per cent of total growth.

Before leaving the subject of Thailand's aggregate economic performance, one further topic requires attention. Why has Thailand's recovery been so slow? As noted above, the crisis was a contraction in aggregate demand, rather than a contraction in productive capacity. Labour and capital were underutilized because there was insufficient demand for Thai output. Where did this contraction in demand come from? Table 4 addresses this point. The upper section of the table shows contributions to the composition of expenditure on GDP in Thailand during the pre-crisis boom (1987 to 1996), the crisis (1997 to 1999), and the post-crisis recovery period (2000 to 2005). During the crisis the share of investment in GDP collapsed by 13 percentage points. Investor confidence was severely damaged by the events surrounding the crisis and during the post-crisis recovery period, this share did not recover sufficiently to restore Thailand's long-term rate of growth.

Why has this occurred? High interest rates are not the answer. Figure 5 shows that although Thailand's interest rates increased during the crisis, they have been at historically low levels since the year 2000. A clue is provided by Figure 6, which shows the relationship between the stock exchange index of Thailand (SET) and the level of private investment. Investment follows the SET, but with a lag. The stock exchange index may be viewed as an indicator of investor confidence. Investors have lost confidence in the capacity of the Thai economy to generate a satisfactory return on their investments.

This problem is not unique to Thailand. Table 4 shows similar calculations for two other crisis-affected economies, Indonesia and Malaysia. The pattern is very similar. Finally, Figure 7 shows annual data on the share of investment in GDP in five crisis-affected East Asian economies: Thailand, Indonesia, Malaysia, the Philippines, and Korea. Although the contraction of private investment in Thailand is at least as large as any other (Malaysia is similar), the figure shows that the problem of sluggish recovery of investment is shared by several East Asian economies. It would not seem appropriate to look for country-specific causes. The decline of investor confidence is regionwide, at least among the countries seriously affected by the crisis. The crisis showed the possibility that investors could be bankrupted by macroeconomic events over which they have no control and where they have little or no forewarning.

4 Sectoral economic performance and productivity growth

How do the major sectors of the Thai economy compare in terms of productivity growth? Table 1 summarizes the sectoral composition of Thailand's growth performance since 1968. The growth of industry, especially export-oriented manufacturing, has far outstripped agriculture, implying that agriculture's share of GDP has declined significantly. This point is confirmed by Figure 8, which shows the rapidly changing composition of output in Thailand.

Observations of this kind are typical for rapidly growing economies. As aggregate output per person expands, agriculture tends to contract as a share of total output, while the share of industry expands. But a common misinterpretation of this phenomenon is that the agricultural sector is 'stagnant' while industry is 'dynamic'. The

misinterpretation lies in confusing the fact that the *level* of factor productivity in agriculture tends to be lower than in industry (and in services) with differences in the *rate of growth* of productivity. The data for Thailand indicate that although the level of factor productivity is indeed lower in agriculture, the growth of productivity is much more rapid there than in other sectors. The key point is that Thai agriculture has been expanding its output, albeit more slowly than the rest of the economy, with *declining* shares of the nation's resources.

The evidence for this conclusion is summarized in Table 5. This table summarizes a set of calculations for agriculture, industry and services which mirror the aggregate analysis reported in Table 2, above. The data used in this analysis again cover the years 1980 to 2002 and include:

- employment of labour by educational category by sector
- physical capital used by each sector
- use of land in agriculture, adjusted by the extent of irrigation coverage, and
- cost shares for each of the above factors of production by sector.

For convenience, the first column of Table 5 repeats the findings at the aggregate level, discussed above. The sectoral findings may be summarized as follows. First, although output (value added) grew more slowly in agriculture (2.64 per cent) than in either industry (8.09 per cent) or services (5.53 per cent) it was the only major sector to record positive TFP growth. This TFP growth in agriculture contributed one twentieth of the overall growth of GDP. In agriculture, the growth of output of 2.64 per cent per year was achieved by factor input growth of 0.47 per and TFP growth of 2.17 per cent. TFP growth therefore accounted for 82 per cent of the growth of value added in agriculture.

Second, the analysis decomposes the aggregate productivity growth component just described into one component due to growth in productivity in individual sectors, each weighted by its share of GDP, and a second component due to the reallocation of resources among sectors of differing TFP. This analysis indicates that the *level* of factor productivity in agriculture remained significantly lower than elsewhere in the economy, despite its higher TFP growth over this period. The movement of factors of production out of agriculture thus further contributed to economic growth by raising the productivity of these factors. Indeed, this reallocation effect contributed 24 per cent of the growth of aggregate output that actually occurred. It was almost five times as important for overall growth as the growth in the productivity of the factors that remained within agriculture.

The results of the analysis indicate that agriculture's contribution to economic growth in Thailand included impressive rates of TFP growth. But its main contribution occurred through releasing resources which could be used more productively elsewhere, while still maintaining output, rather than through expansion of agricultural output. It is seriously wrong to characterize Thai agriculture as 'stagnant', based merely on the fact that output growth is slower in agriculture than in other sectors. If agriculture had really been stagnant, economic growth would have been substantially lower because it would not have been possible to raise productivity significantly within agriculture or to release resources massively while still maintaining moderate growth of output.

Table 6 summarizes the results of this analysis by showing in the first column, the contributions to overall growth of aggregate factor growth (90 per cent of total growth)

and aggregate measures TFP (10 per cent). It then decomposes this aggregate TFP growth into its sectoral components and the part that is due to the reallocation of resources from low productivity sectors (mainly agriculture) to higher productivity sectors (mainly industry). This distinction was apparently first identified empirically by Jorgenson (1988) in the context of US productivity growth. Although agriculture generated positive TFP growth, the aggregate of sector level TFP growth was negative. All of the 10 per cent of GDP growth accounted for by aggregate TFP, and more besides, is accounted for by the reallocation of resources. Finally, the second column shows that these qualitative conclusions are not reversed if the analysis is confined only to the resource-constrained, pre-crisis period.

5 Poverty incidence and inequality

Is economic growth really so important? Do the poor actually benefit from it, or only the rich? Within Thailand, as elsewhere, there is considerable debate about these matters. Before turning to the relationship between poverty incidence and economic growth in Thailand, some characteristics of poverty in Thailand will be reviewed. Despite much dispute about measurement and conceptual issues, all major studies of poverty incidence and inequality in Thailand agree on some basic points:

- Poverty is concentrated in rural areas, especially in the northeastern and northern regions of the country.
- Absolute poverty has declined dramatically over the last four decades, but inequality has increased.
- The long-term decline in poverty incidence was not confined to the capital, Bangkok, or its immediate environs, or to urban areas in general, but occurred in rural areas as well. Since 1988, the largest absolute decline in poverty incidence occurred in the poorest region of the country, the north east.
- Large families are more likely to be poor than smaller families.
- Farming families operating small areas of land are more likely to be poor than those operating larger areas.
- Households headed by persons with low levels of education are more likely to be poor than others.

The following discussion draws upon the official poverty estimates produced by the Thai government's National Economic and Social Development Board (NESDB) which, like all other available poverty estimates, are based upon the household incomes collected in the National Statistical Office's Socio-economic Survey (SES) household survey data. Despite their imperfections, these are the only data available covering a long-time period. These survey data have been collected since 1962. The early data were based on small samples, but their reliability has improved steadily, and since 1988 the raw data have been available in electronic form. Table 7 summarizes the available official data for the two decades from 1988 to 2006.

5.1 Declining poverty incidence, rising inequality

Table 7 focuses on the familiar headcount measure of poverty incidence: the percentage of a particular population whose household incomes per person fall below the poverty line. The table confirms that most of Thailand's poor people reside in rural areas. Until recently, the SES data were classified according to residential location in the categories

municipal areas, sanitary districts and villages. These correspond to inner urban (historical urban boundaries), outer urban (newly established urban areas) and rural areas, respectively. Poverty incidence is highest in the rural areas, followed by outer urban, and lowest in the inner urban areas. When these data are recalculated in terms of the share of each of these residential areas in the total number of poor people and then the share of the total population, as in the last two rows of the table, respectively, a striking point emerges. In 2004, rural areas accounted for 93 per cent of the total number of poor people but only 64 per cent of the total population.

The final column of Table 7 shows the Gini coefficient of inequality. This index potentially takes values between 0 and 1, with higher values indicating greater inequality. The index for Thailand rose significantly over the 20 years shown. Combined with the reduction in absolute poverty which occurred at the same time, this means that the real incomes of the poor increased with economic growth, but the incomes of the rich increased even faster.

The data reveal a very considerable decline in poverty incidence up to 1996, a moderate increase to 1998 and a further increase over the following two years. Over the eight years from 1988 to 1996, measured poverty incidence declined by an enormous 21.4 per cent of the population, an average rate of decline in poverty incidence of 2.7 percentage points per year. That is, each year, on average 2.7 per cent of the population moved from incomes below the poverty line to incomes above it. Over the ensuing two years ending in 1998 poverty incidence increased by 1.5 per cent of the population. Alternatively, over the eight years ending in 1996 the absolute number of persons in poverty declined by 11.1 million (from 17.9 million to 6.8 million); over the following two years the number increased by 1 million (from 6.8 to 7.9 million). Thus, according to the official data, measured in terms of absolute numbers of people in poverty, the crisis reversed 9 per cent of the poverty reduction that had occurred during the eight year period of economic boom immediately preceding the crisis.

From Figure 9, it is apparent that the north east region dominates poverty incidence in Thailand. This one region accounted for 51 per cent of Thailand's poor people in 2004, but only 34 per cent of the total population. Every other region's share of the total number of poor is smaller than its share of the total population. Poverty is an especially important problem among rural people, particularly in the north east.

More dramatic than any of these data, however, are recently released data on the relationship between poverty incidence and education. According to the National Economic and Social Development Board's data, of the total number of poor people in 2002, 94.7 per cent had received primary or less education. A further 2.8 per cent had lower secondary education, 1.7 per cent upper secondary, 0.48 per cent had vocational qualifications and 0.31 per cent had graduated from universities. Thailand's poor are overwhelmingly uneducated, rural and living in large families. But they are not necessarily landless.

5.2 Poverty reduction and economic growth

What caused the long-term decline in poverty incidence? It is obvious that over the long-term, sustained economic growth is a necessary condition for large-scale poverty alleviation. No amount of redistribution could turn a poor country into a rich one. Long-term improvements in education have undoubtedly been important, but despite the

limitations of the underlying SES data, a reasonably clear statistical picture also emerges on the short-term relationship between poverty reductions and the rate of economic growth. The data are summarized in Figure 10, which plots the relationship between changes in poverty incidence, calculated from Table 7 and the real rate of growth of GDP over the corresponding period.

Although the number of data points is small, the implications seem clear. Periods of more rapid economic growth were associated with more rapid reductions in the level of absolute poverty incidence. Moderately rapid growth from 1962 to 1981 coincided with steadily declining poverty incidence. Reduced growth in Thailand caused by the world recession in the early to mid-1980s coincided with worsening poverty incidence in the years 1981 to 1986. Then, Thailand's economic boom of the late 1980s and early 1990s coincided with dramatically reduced poverty incidence. Finally, the contraction following the crisis of 1997-98 led to increased poverty incidence. The recovery since the crisis has been associated with significant poverty reductions.

On the other hand, no such simple short-term relationship can be found between the change in inequality over time and the rate of growth. The rate of growth does not seem to be a significant determinant of short-term changes in the level of inequality. Other social factors are undoubtedly playing a role, but research on this issue remains inconclusive.

6 Non-economic social change: population, health, and education

The economic transformation that Thailand has experienced was achieved with environmental and other costs. Pollution of air and water sources has been well-documented and the expansion of the agricultural land has been partly at the expense of deforestation, with negative effects on land erosion and the siltation of rivers and dams. Economic change has coincided with massive social change as well. Thai and foreign commentators agree that not all of this social change was necessarily beneficial. For example, the decline of village institutions and traditional values are widely lamented. Narcotics trafficking, including both illegal export of drugs such as marijuana and heroin and domestic use of drugs such as meta-amphetamines, has had a corrupting influence. Other social evils such as trafficking in women and child prostitution reportedly persist. In addition, rising wages in Thailand have attracted illegal migrants from neighbouring countries such as Myanmar, Cambodia, and Laos with occasional social conflict resulting. Not surprisingly, it is difficult to assemble solid evidence on the extent of these problems.

Despite these genuine problems, evidence can be advanced for substantial social progress accompanying Thailand's economic growth. The discussion will focus on five components of social change: population growth, infant and maternal mortality, literacy, access to clean drinking water, and HIV/AIDS infection levels.

6.1 Population growth

In 1960s, Thailand's population growth rate was around 3.5 per cent per annum. Population growth at these rates puts enormous strain on a country's education and health systems. A programme of family planning was instituted in the 1960s and these efforts have been an outstanding success. Four decades later, population growth was

well under 0.8 per cent per annum and still falling (Figure 11). Thailand's population will peak in around 2025. The nation's capacity to provide improved education and health services for its youth is greatly enhanced by these demographic changes. But declining population growth rates brings adjustment problems as well. Rural depopulation is an inevitable consequence of declining overall growth rates and rural to urban migration. Thailand's population is rapidly urbanizing and this requires adjustment to the provision of government services and infrastructure facilities.

6.2 Infant and maternal mortality

Improvement in the quality of life has been accompanied by startling improvements in standard health indicators. Important examples are shown in Figures 12 and 13. In 1960 infant mortality rates were around 50 deaths per 1,000 births at the national level. In 2002 the corresponding mortality rate was 6.5 (Figure 12). This dramatic decline occurred in all major regions of the kingdom. In 1960 no region had an infant mortality rate below 40 per 1,000 births; by 2002 no region was above 7.5 deaths per 1,000 births.

Maternal mortality rates have declined even more rapidly. The data are summarized in Figure 13. In 1960 the average rate of maternal mortality was 420 deaths per 100,000 live births, at the national level. By 2002 this same national rate was 15 deaths per 100,000 live births. These achievements in public health were widespread throughout the kingdom. In 2002 no major region had a maternal mortality rate above 30 deaths per 100,000 live births. Thailand's economic progress has contributed to demonstrably improved health conditions for the Thai population.

6.3 Literacy

Data on literacy rates are available from the National Census, conducted by the National Statistical Office every ten years, beginning in 1960. These data are summarized in Figure 14. In 1960, literacy at the national level was 71 per cent. For males it was 80 per cent and for females 61 per cent. In 2000 the corresponding rates were 95 per cent at the national level: 97 per cent for males and 94 per cent for females. Clearly, the overall level of basic literacy has improved significantly. A gap between male and female rates of literacy characterizes poor countries, but in Thailand this gap has narrowed. Figure 15 shows that at a regional level these same trends are evident throughout the country. For example, in the north east, the country's poorest region, literacy rates at the aggregate level increased over the corresponding four decades from 75 per cent to 92 per cent. For males, the increase was from 83 to 94 per cent and for females from 68 to 91 per cent.

6.4 Access to clean drinking water

Because water-borne diseases are a major health problem in all poor countries, improved access to clean drinking water is a necessary condition for improved public health. Since 1981 data on this aspect of public health has been available from the Socio-economic Surveys conducted periodically by the National Statistical Office. These data are summarized in Figures 16 and 17. Increasingly, Thai people have enjoyed access to privately provided piped water, the proportion of the population with such access increasing from 16 per cent in 1981 to 23 per cent in 2000. Because two thirds of the Thai population still reside in rural areas, progress in this area has been slow and substantial room for improvement remains.

One aspect of the data provided in Figure 17 is especially notable. The proportion of the population of Greater Bangkok with access to piped water actually declined from 1981 to 2000. The reason is that the population increase in Greater Bangkok has been concentrated in outer, peri-urban areas. The population of inner Bangkok has actually declined. These outer areas of Bangkok have received migrant populations from rural areas and provision of basic public services to these areas remains poor. Only half of the population of Greater Bangkok has access to piped water.

6.5 HIV/AIDS

The Thai public health system was slow to recognize the dangers of the worldwide HIV/AIDS epidemic. Throughout most of the 1980s the problem was denied. Concerted efforts began in the late 1980s with campaigns encouraging condom use. Thai non-government organizations were on the forefront of these efforts. The efforts paid off. Today, Thailand is considered a success story in the global fight against HIV/AIDS. Figure 18 shows a significant reduction in the number of new HIV infections reported, beginning in 1996. From Figure 19, this reduced infection rate resulted in a reduction in both the total number of Thai people suffering from AIDS and the number of AIDS related deaths, beginning in 1999. Thailand has demonstrated to the world that concerted action to reduce HIV infection rates can reduce the social costs of the HIV/AIDS problem. Regrettably, it cannot eliminate these costs.

7 Conclusions: is Thailand a success story?

The experience of Thailand over the past half century confirms the importance of sustained economic growth, at least in poor countries, for the achievement of the basic social objectives of poverty reduction, improved education and public health. Thailand's recovery from the crisis of 1997-99 is now complete, despite several unexpected setbacks, including rural drought, Asian influenza, SARS, political violence in the South, the tsunami of 26 December 2004, and political turmoil in 2006.

Thailand's economic experience confirms the value of an open economic system in promoting long-term growth. The contrasting experience of neighbouring Burma/Myanmar illustrates this point. As recently as 1960 the two countries were similarly impoverished. Since then, Burma's economic policies have been closed and deeply suspicious of the outside world. Internally, markets have been suppressed and control-oriented solutions have been favoured for most economic problems. The difference in living standards today is stark. The majority of the Burmese people remain poor to an extent that is only a distant memory for the Thai population.

Not all aspects of the Thai development strategy have been similarly successful. Inequality has increased at the same time as absolute poverty has declined. The underlying causes of this increase in inequality are still not well understood. Education policy remains a serious problem. The system of primary and secondary education remains archaic. Standards of rural education in particular remain low and the poor quality of education received by most rural Thais dooms them to lives of economic disadvantage even when they migrate to the urban centers. The long-term neglect of environmental degradation is a further failure of Thai policy. This applies to pollution control, deforestation, including the denudation of coastal mangrove forests, and the wasteful management of the country's water resources.

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Table 1: Growth of GDP and its sectoral components in Thailand, 1951 to 2006
(per cent per annum)

	Pre-boom 1968-86	Boom 1987-96	Crisis 1997-99	Recovery 2000-06	Whole period 1968-06
Total GDP	6.7	9.5	-2.5	5.0	6.4
Agriculture	4.5	2.6	0.1	2.7	3.3
Industry	8.5	12.8	-1.7	6.2	8.4
Services	6.8	9	-3.6	4.3	6.1

Source: Bank of Thailand, data for 1951 to 1986; National Economic and Social Development Board, data from 1987.

Table 2: Aggregate growth accounting in Thailand, 1980 to 2002

	Annual growth rate (per cent per year)	Average cost share (per cent)	Contribution to total growth (per cent per year)	Per cent contribution to total growth (per cent)
Output	6.01	n.a.	n.a.	100
All factors	5.41	100	5.41	90.0
Raw labour	2.19	40.2	0.88	14.7
Human capital	2.49	11.2	0.28	4.6
Physical capital	9.05	46.9	4.24	70.6
Agricultural land	1.12	1.8	0.02	3.3
Aggregate TFP growth	n.a.	n.a.	0.60	10.0

Note: n.a. means not applicable.

Source: Author's calculations, using data from National Economic and Social Development Board.

Table 3: Financing of aggregate investment in Thailand, 1973 to 2002

	Average share of each component (per cent)						Total savings = total investment
	Private savings	Government savings	Foreign savings				
			Total	L-term capital inflow	S-term capital inflow	Decline in reserves	
Pre-boom (1973–86)	112.9	-16.7	3.8	5.1	2.1	-3.4	100
Boom (1987–96)	93.1	-11.4	18.2	4.1	22.8	-8.7	100
Crisis (1997–98)	160.9	-23.2	-37.7	17.3	-70.4	15.4	100
Post-crisis (1999–2002)	142.3	-6.4	-36.2	11.3	-35.4	-12.1	100
Whole period (1973–2002)	115.9	-19.0	3.1	5.3	1.1	-3.4	100

Source: Author's calculations, using data from Bank of Thailand and National Economic and Social Development Board.

Table 4: Thailand, Indonesia, and Malaysia: contributions to expenditure on GDP, 1987 to 2006

Country/period	Consumption	Investment	Government	Net exports	Total
Thailand					
Pre-crisis (1987–96)	54.8	38.9	9.9	-5.0	100
Crisis (1997–99)	54.0	27.0	10.5	8.5	100
Post-crisis (2000–06)	57.6	26.0	11.3	5.3	100
Indonesia					
Pre-crisis (1987–96)	55.0	27.8	9.1	0.4	100
Crisis (1997–99)	65.0	24.5	6.5	5.0	100
Post-crisis (2000–06)	62.1	23.7	7.7	6.6	100
Malaysia					
Pre-crisis (1987–96)	48.8	37.2	12.8	1.2	100
Crisis (1997–99)	43.5	35.0	10.5	11.5	100
Post-crisis (2000–06)	46.1	23.0	12.6	18.3	100

Source: Author's calculations, using data from World Bank, World Development Indicators (various issues).

Table 5: Total factor productivity growth by sectors, 1980 to 2002

	Aggregate	Agriculture	Industry	Services
Average growth rates (per cent per annum)				
Output	6.01	2.64	8.09	5.53
Raw labour	2.19	1.50	5.25	3.47
Human capital	2.49	9.43	11.35	6.90
Physical capital	9.05	8.50	13.84	18.47
Agricultural land	1.12	1.12	0	0
Average cost shares (per cent)				
Raw labour	40.2	59.0	30.4	31.0
Human capital	11.2	3.9	12.0	9.2
Physical capital	46.9	13.0	57.6	59.8
Agricultural land	1.8	24.1	0	0
Decomposition of output growth (per cent per annum)				
Output growth	6.01	2.64	8.09	5.53
Factor growth	5.41	0.47	9.20	7.04
TFP growth	0.60	2.17	-1.11	-1.51
Decomposition of aggregate TFP growth (per cent per annum)				
Aggregate sectoral TFPG	-0.85			
Reallocation effect	1.45			

Source: Author's calculations, using data from National Economic and Social Development Board.

Table 6: Percentage contributions to aggregate growth, 1980 to 2002

	(per cent)	
	Whole period 1980-2002	Pre-crisis period 1980-1996
Aggregate factor growth	90.0	80.3
Aggregate TFP growth	10.0	19.7
Agriculture TFP growth	5.0	2.9
Industry TFP growth	-7.1	-1.1
Services TFP growth	-12.0	0.7
Reallocation effect	24.1	17.3
Total	100	100

Source: Author's calculations, using data from National Economic and Social Development Board.

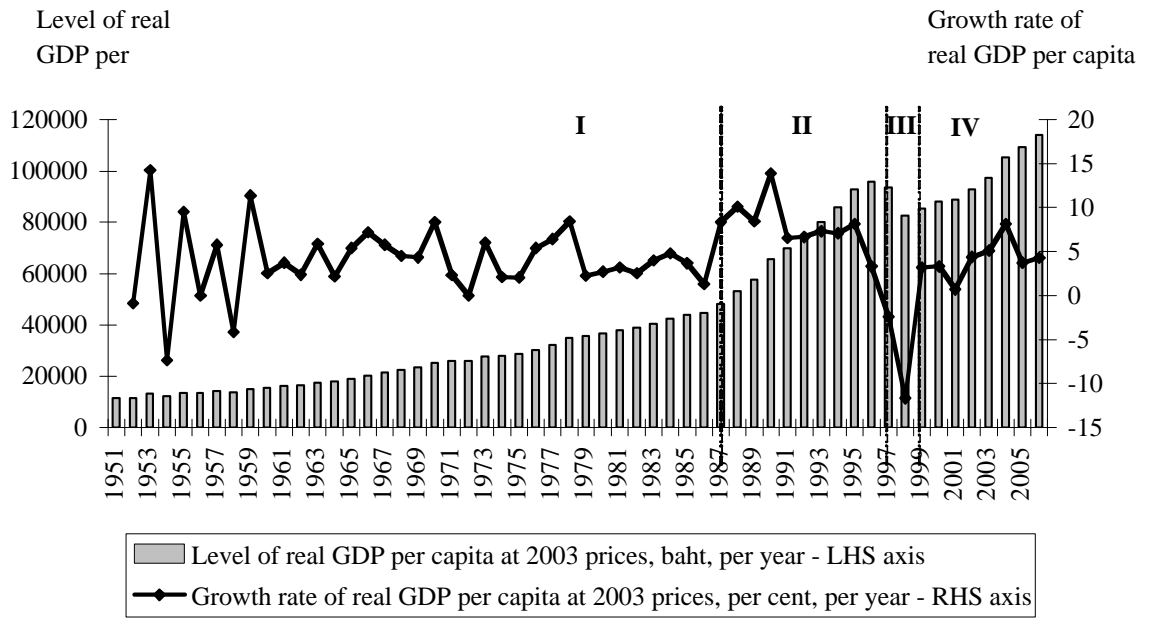
Table 7: Poverty incidence and Gini coefficient, 1988 to 2006

	Poverty incidence (headcount measure, per cent of population)			Inequality (Gini coefficient)
	Aggregate	Rural	Urban	Aggregate
1988	44.9	52.9	25.2	0.487
1990	38.2	45.2	21.4	0.515
1992	32.5	40.3	14.1	0.536
1994	25.0	30.7	11.7	0.520
1996	17.0	21.3	7.3	0.513
1998	18.8	23.7	7.5	0.507
2000	21.3	27.0	8.7	0.522
2002	15.5	19.7	6.7	0.507
2004	11.3	14.3	4.9	0.493
2006	9.6	12.0	3.6	0.515

Note: Both poverty incidence and inequality are based on incomes rather than expenditures in these data. Higher values of the Gini coefficient indicate greater inequality.

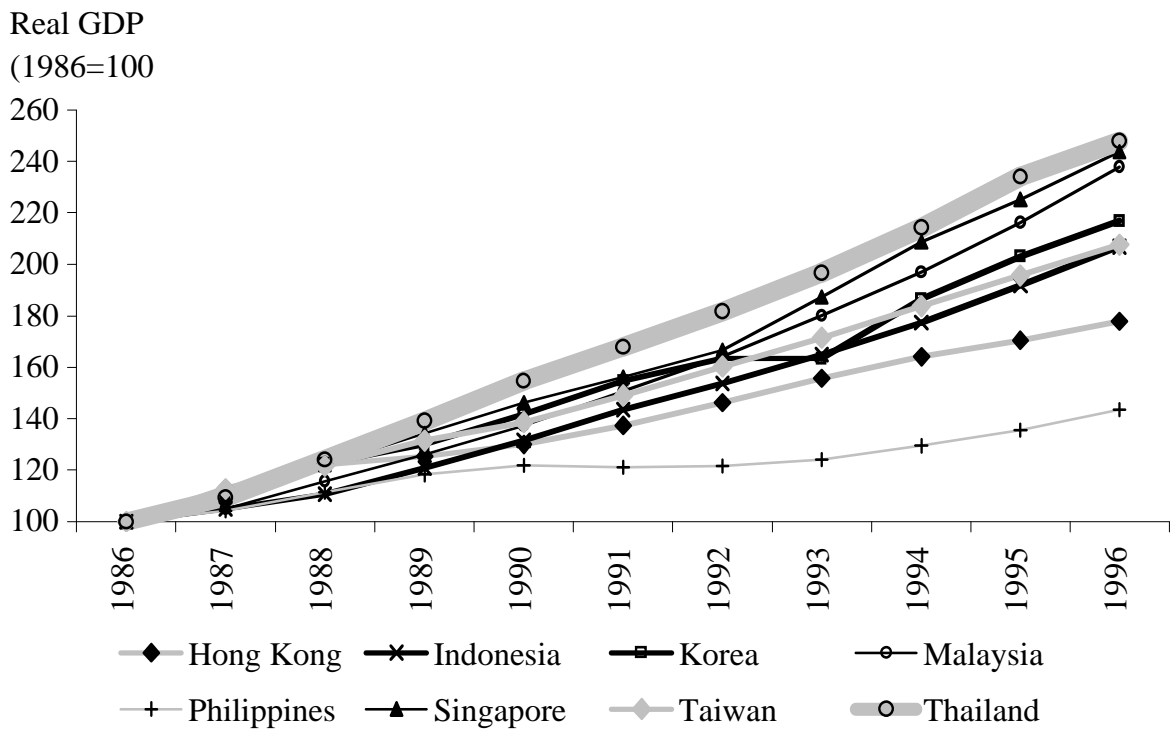
Source: National Economic and Social Development Board website:
<http://www.nesdb.go.th/Default.aspx?tabid=322>, accessed 24 April 2008.

Figure 1: Real GDP per capita and growth of real GDP per capita in Thailand, 1951 to 2006



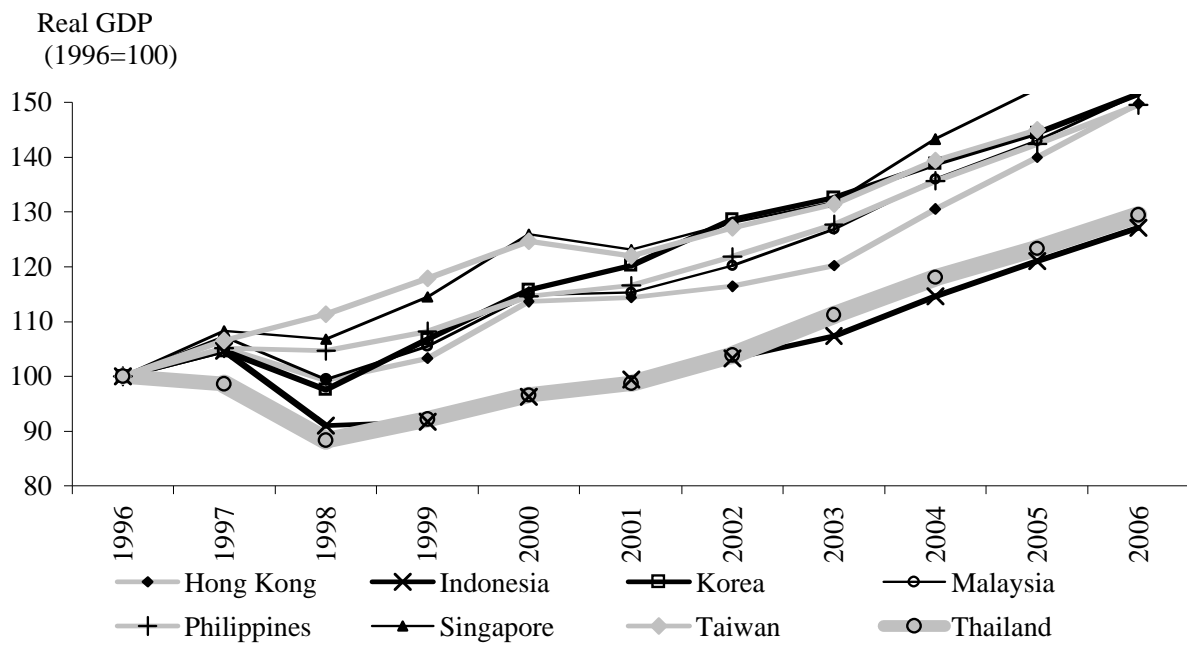
Source: Author's calculations, using data from National Economic and Social Development Board.

Figure 2: Real GDP in East Asia, 1986 to 1996



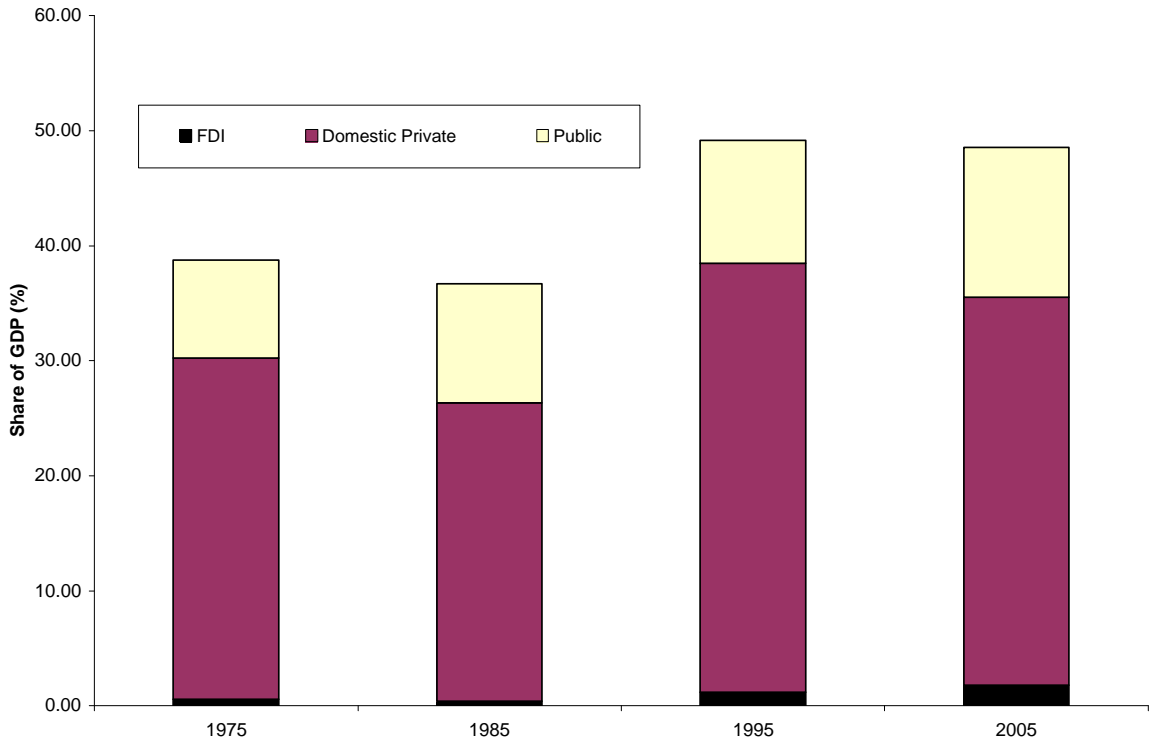
Source: Asian Development Bank, Development Indicators (various issues).

Figure 3: Real GDP in East Asia, 1996 to 2006



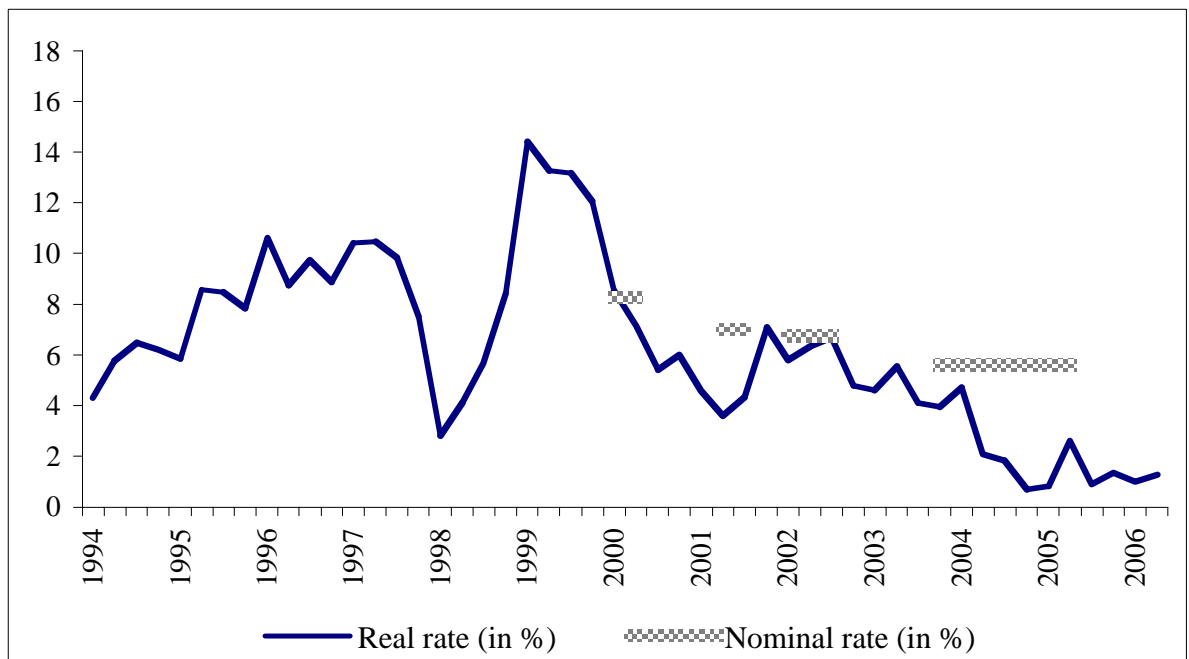
Source: Asian Development Bank, Development Indicators (various issues).

Figure 4: Composition of net annual investment, 1975 to 2005



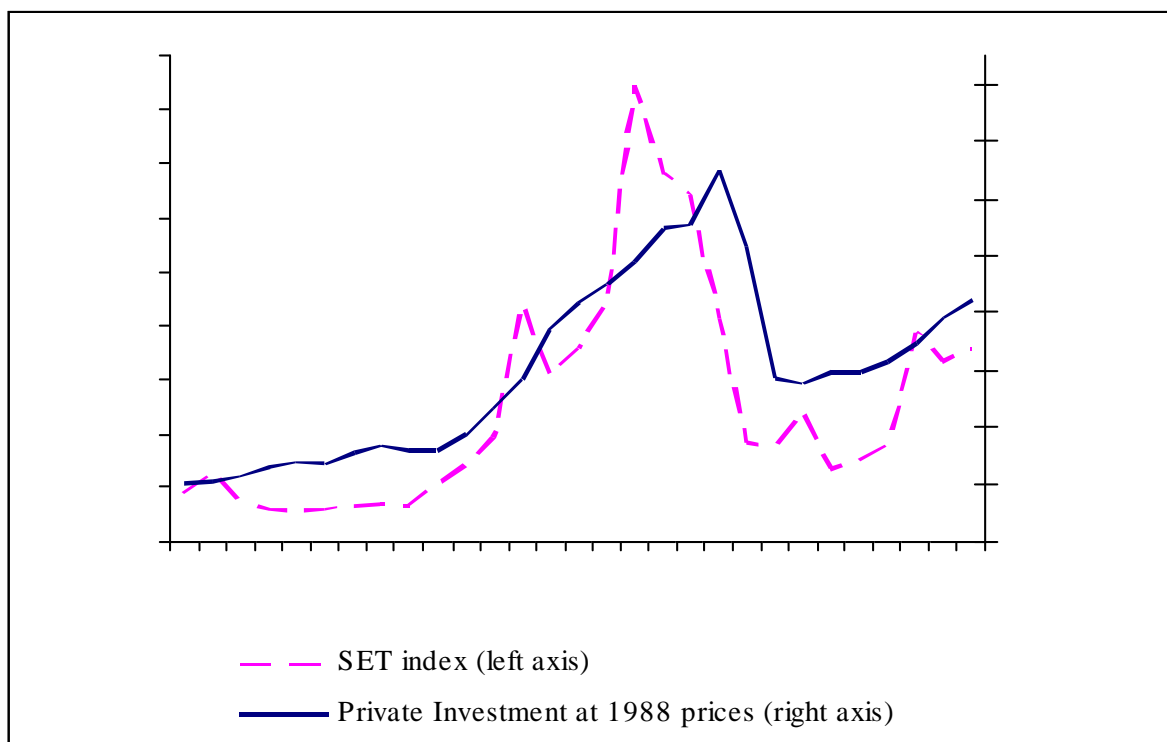
Source: Author's calculations using data from National Economic and Social Development Board.

Figure 5: Real and nominal interest rates, 1994 to 2006



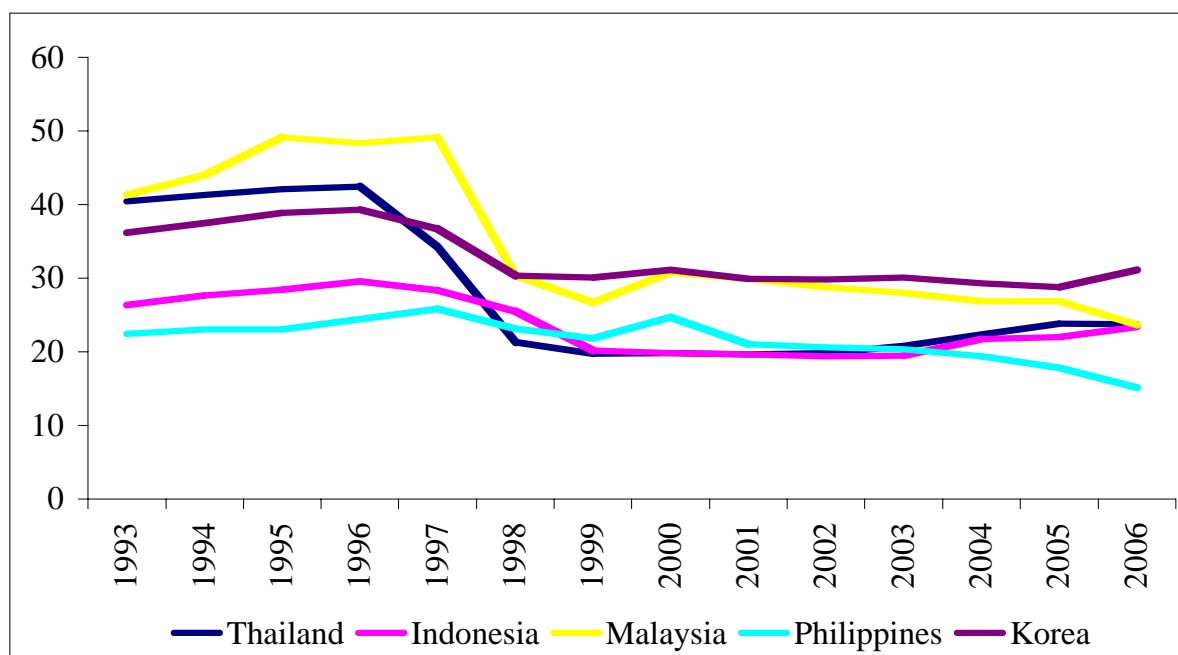
Source: Bank of Thailand.

Figure 6: Private investment and the stock exchange price index, 1977 to 2005



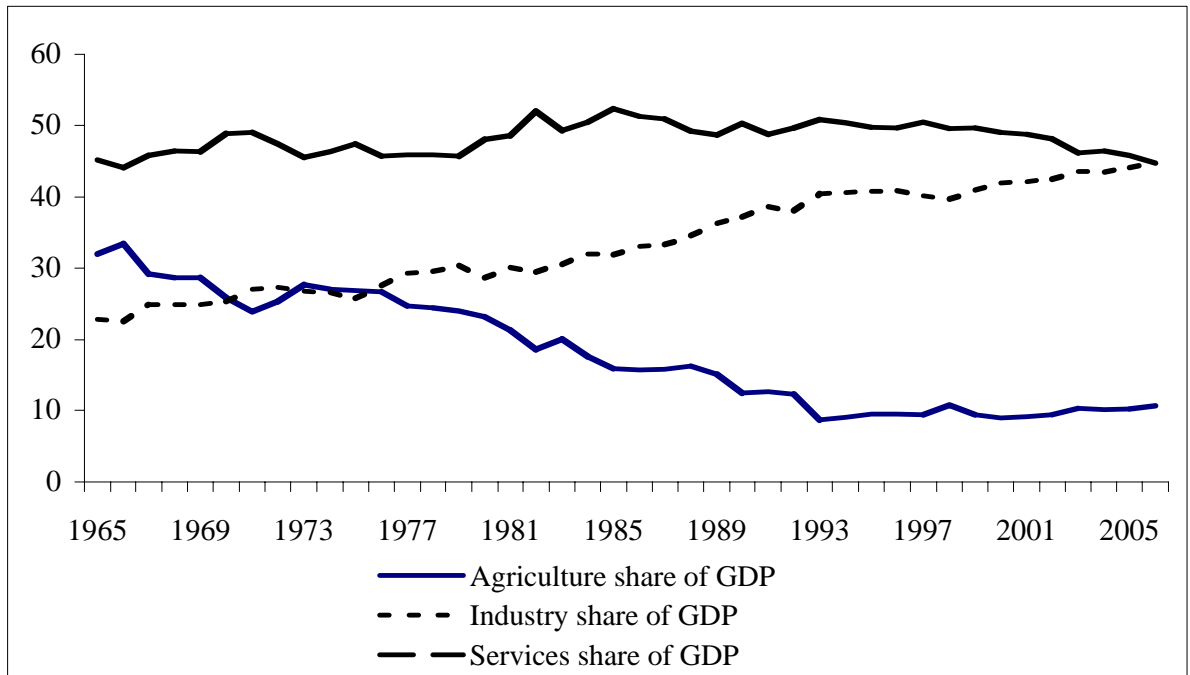
Source: National Economic and Social Development Board and Stock Exchange of Thailand.

Figure 7: Investment shares of GDP in East Asia, 1993 to 2006



Source: Author's calculations, using data from World Bank, World Development Indicators (various issues).

Figure 8: Sectoral shares of GDP, 1965 to 2006 (per cent)



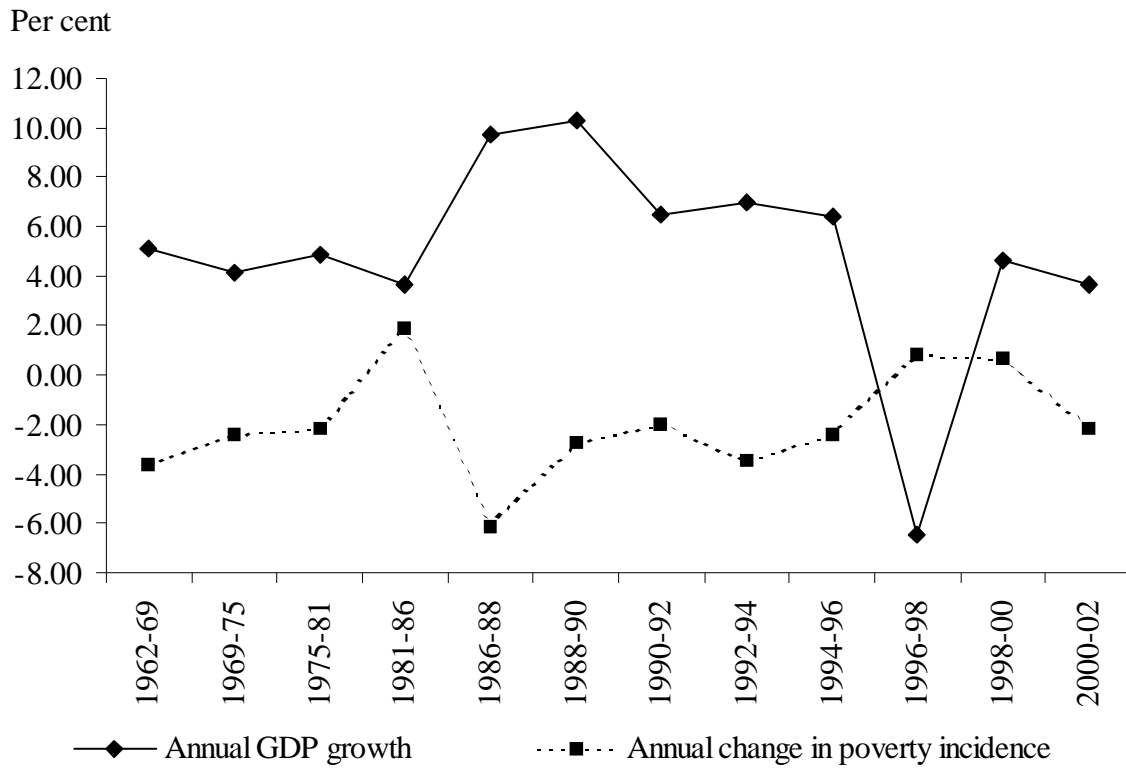
Source: World Bank, World Development Indicators (various issues).

Figure 9: Poverty incidence by region, 2004



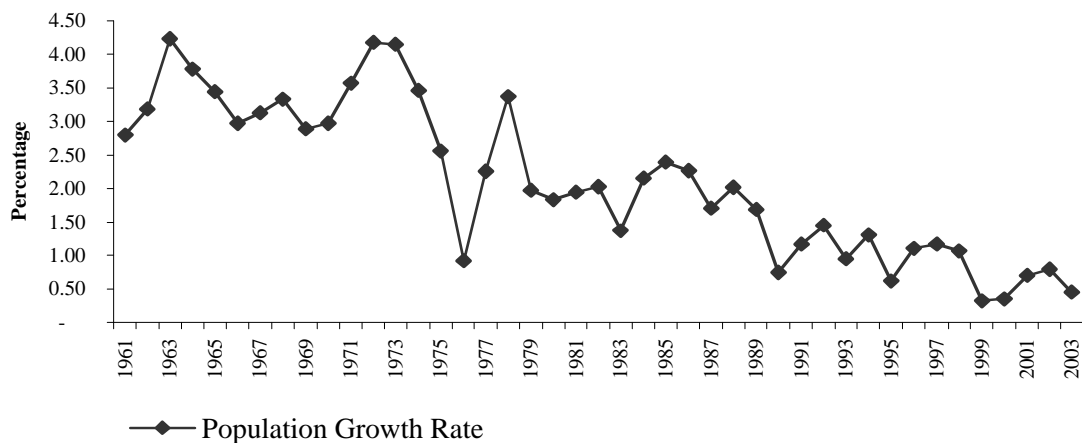
Source: Author's calculations, using data from National Economic and Social Development Board.

Figure 10: Poverty incidence and economic growth



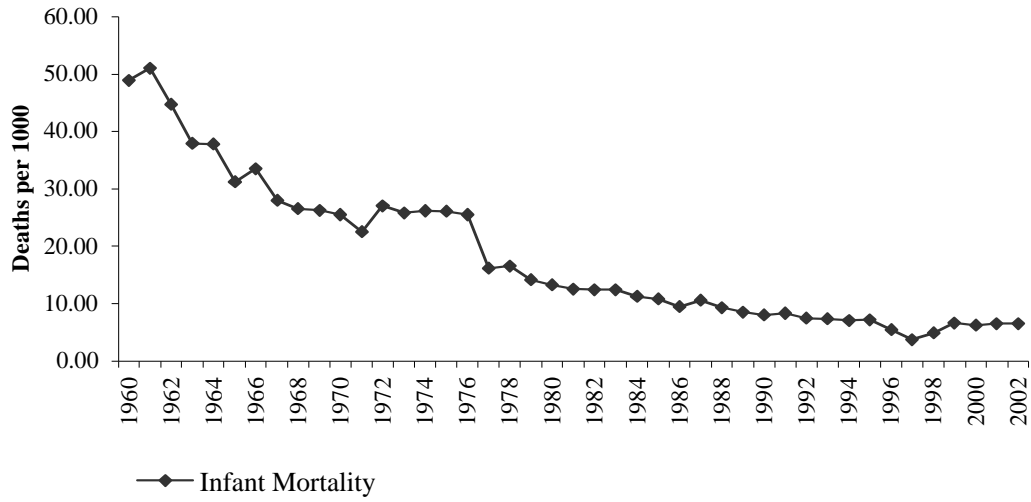
Source: Author's calculations using poverty data as in Table 1 and GDP data from National Economic and Social Development Board.

Figure 11: Population growth rate, 1960 to 2004 (per cent per year)



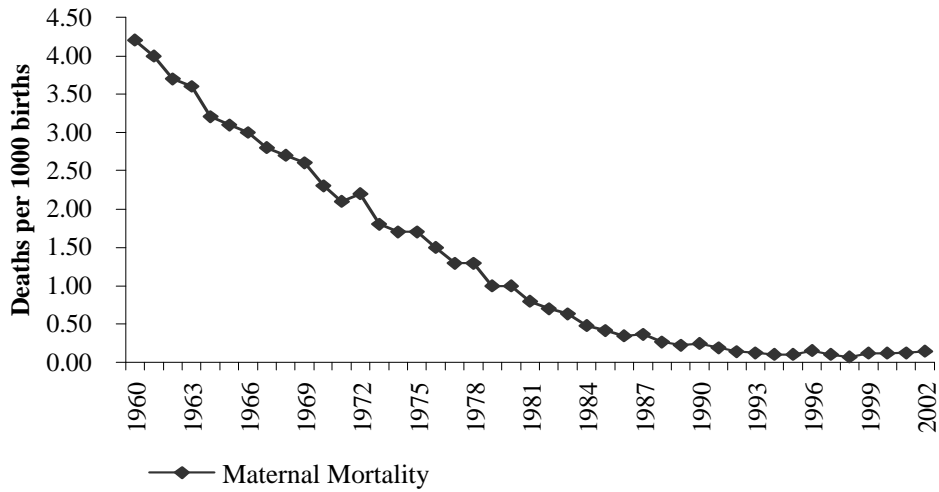
Source: National Statistical Office, Bangkok.

Figure 12: Infant mortality (deaths per 1,000 births), 1960 to 2002



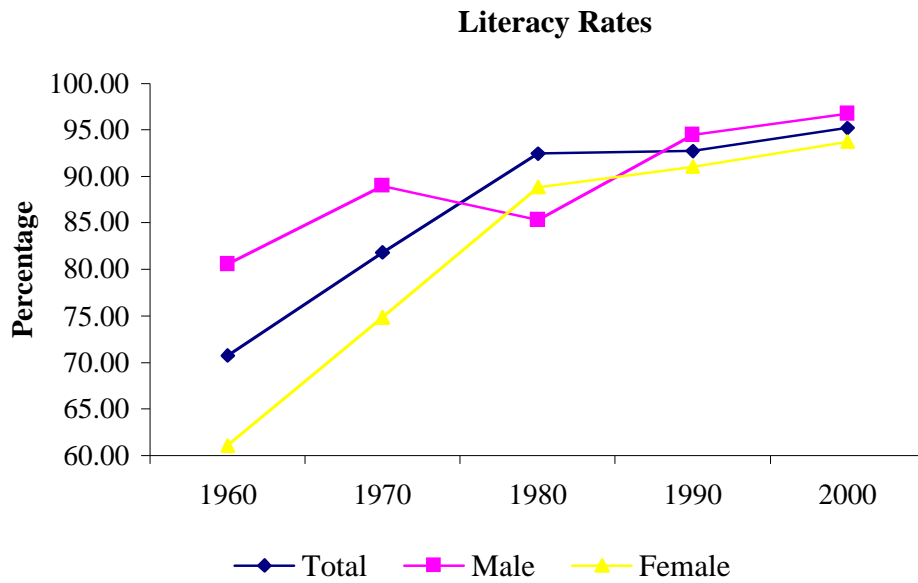
Source: Public Health, Division of Vital Statistics, Ministry of Public Health (various issues).

Figure 13: Maternal mortality (deaths per 1,000 births), 1960 to 2002



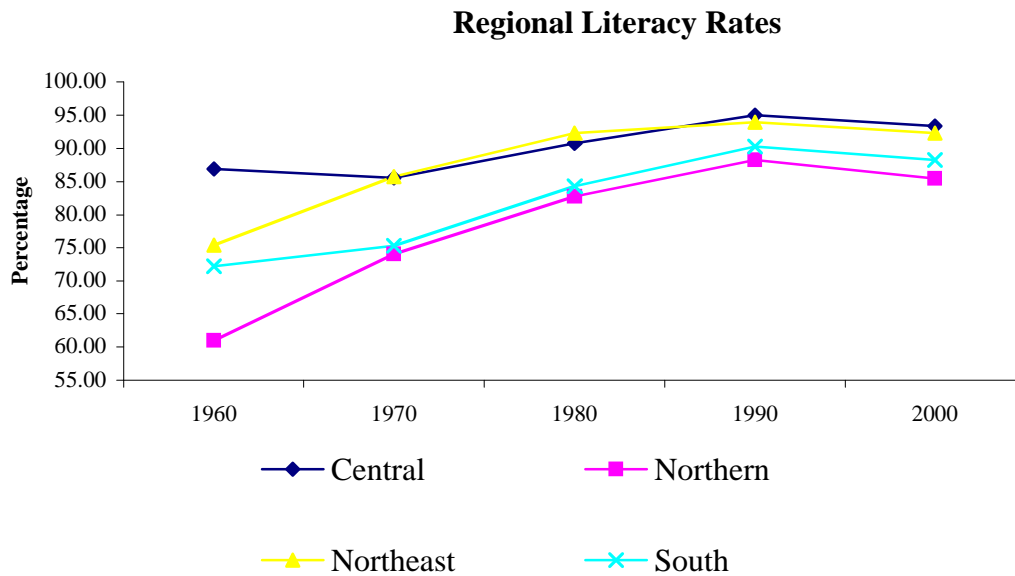
Source: Public Health Statistics, Division of Vital Statistics, Ministry of Public Health (various issues).

Figure 14: Literacy rates among males and females, 1960 to 2000



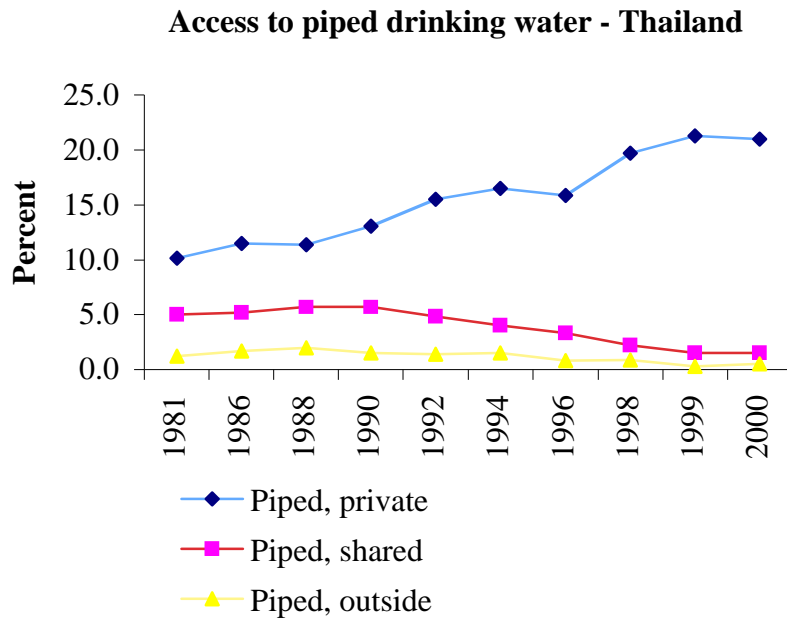
Source: National Statistical Office, Bangkok, National Census (various issues).

Figure 15: Literacy by region, 1960 to 2000



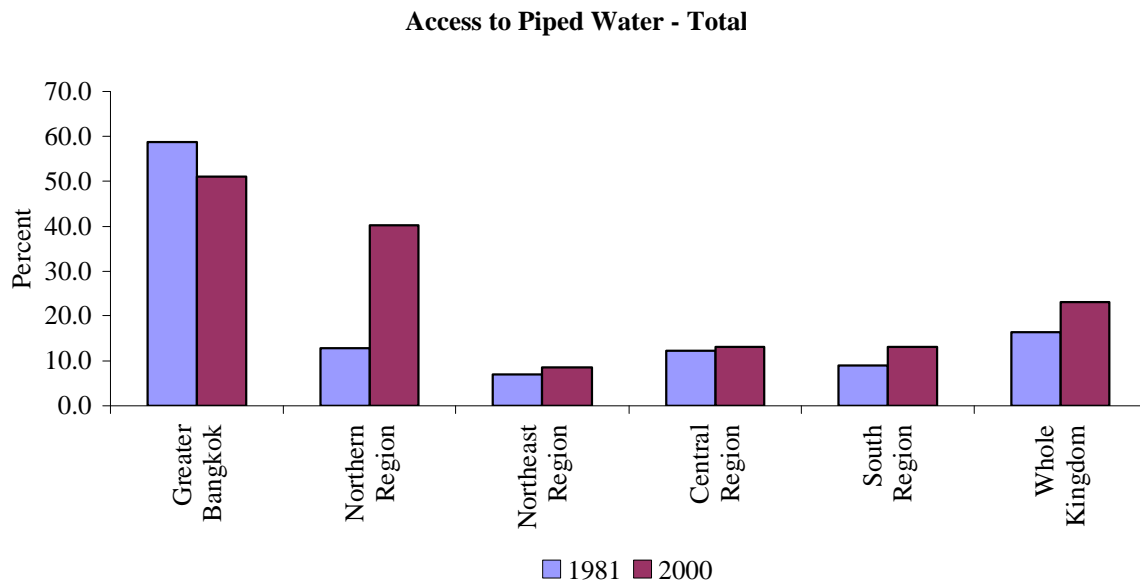
Source: National Statistical Office, Bangkok, National Census (various issues).

Figure 16: Access to piped water, 1981 to 2000



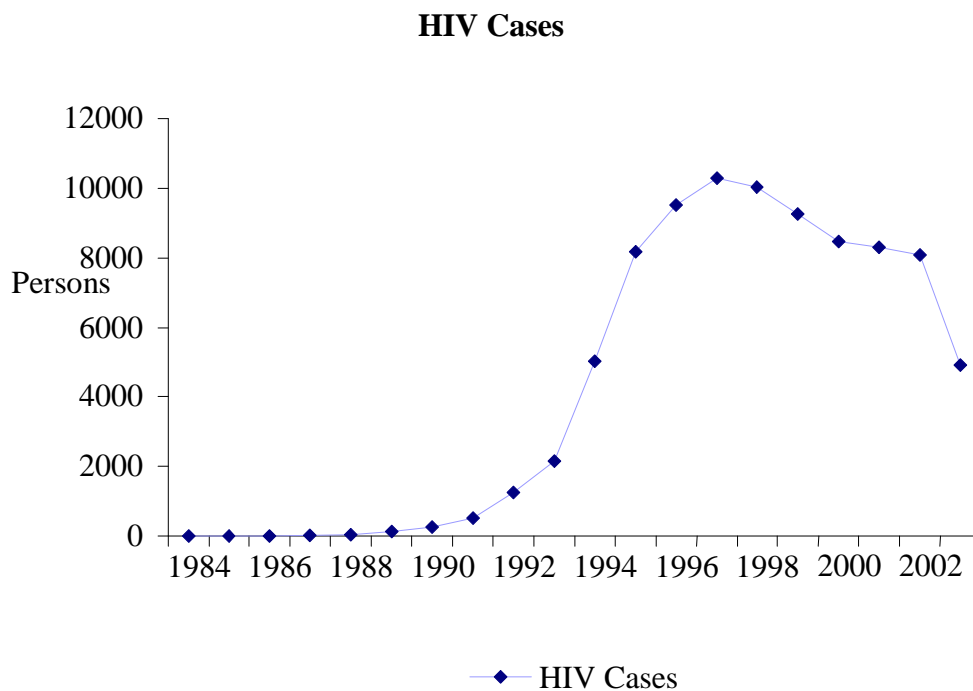
Source: National Statistical Office, Report of the Household Socio-Economic Survey, Whole Kingdom (various issues).

Figure 17: Access to piped water by region, 1981 to 2000



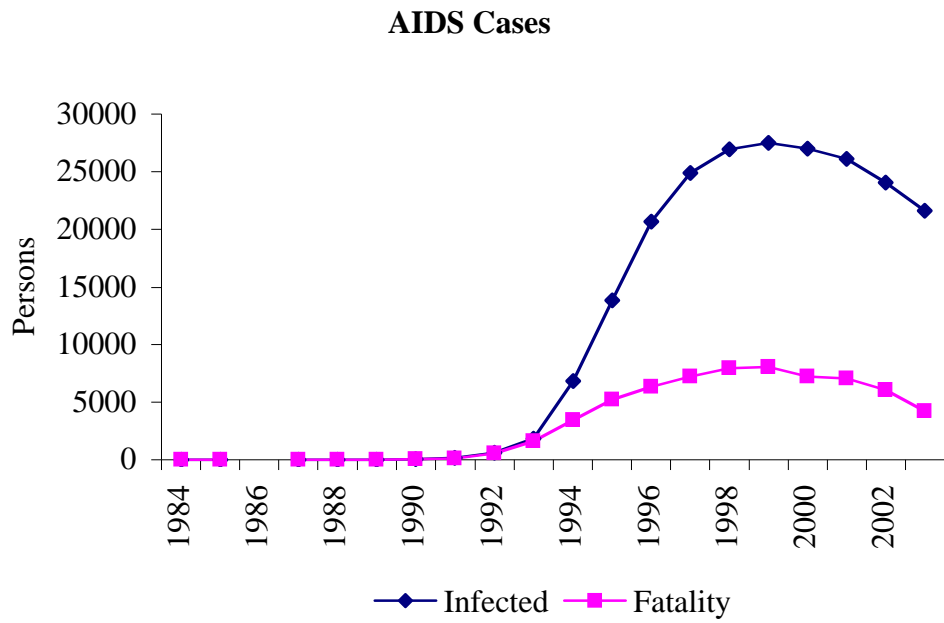
Source: National Statistical Office, Report of the Household Socio-Economic Survey, Whole Kingdom (various issues).

Figure 18: New HIV infections reported, 1984 to 2003



Source: Center of Epidemiological Information, Bureau of Epidemiology, Ministry of Public Health.

Figure 19: Total AIDS infections and deaths reported, 1984 to 2003



Source: Center of Epidemiological Information, Bureau of Epidemiology, Ministry of Public Health.