Australian National University

Working Papers in Trade and Development

Economic Development in Post-war Thailand

Peter Warr

July 2018
Working Paper No. 2018/16

Arndt-Corden Department of Economics
Crawford School of Public Policy
ANU College of Asia and the Pacific

Economic Development in Post-war Thailand

Peter Warr

Australian National University

July 2018

Abstract

This paper discusses five aspects of Thailand's economic performance since World War II: the changing rate of growth and its composition; the sources of that growth; the causes and consequences of the Asian Financial Crisis (AFC) of 1997-99, including the reason it originated in Thailand; the distribution among the Thai population of the fruits of long-term growth; and whether Thailand is caught in a middle-income trap. The evidence from Thailand demolishes the notion that economic growth fails to benefit the poor – provided 'benefit' is understood in absolute and not relative terms. It is argued that Thailand is now caught in a 'middle-income trap' caused by a backward and under-resourced educational system. Exit is possible, but requires a public commitment to overcoming the under-supply of human capital that a market-based economic system inherently produces and to raising the public revenue needed to finance higher levels of educational investment.

Key words: Thailand; economic growth; poverty incidence; inequality; human capital.

JEL codes: O10; O47; O53; N95.

Economic Development in Post-war Thailand*

Introduction

At the end of World War II, Thailand was one of the world's poorest and economically most backward nations. Its agrarian-based economy had remained stagnant for at least a century (Sompop 1989) and the war itself had caused widespread damage. External observers of the time generally assessed the country's economic potential pessimistically (Ingram 1971). In the seven decades following, Thailand has developed to an upper-middle-income, semi-industrialized and technologically advanced economy. But multiple economic and associated social problems remain. This paper describes the major economic changes that have occurred, analyzes the forces driving them, and attempts to identify the principal policy priorities for continued progress.

The next section briefly summarises the performance of the Thai economy over the seven decades following World War II, with a focus on aggregate economic growth and structural change. The following sections then address four questions regarding this performance:

- What have been the drivers of Thailand's long-term growth?
- What caused the Asian Financial Crisis and why did it originate in Thailand?
- How equitably have the benefits of Thailand's economic growth been distributed?
- Is Thailand caught in a 'middle-income trap'?
-

* Revised version to appear in Pavin Chachavalpongpun, (ed.), *Routledge Handbook of Contemporary Thailand*, London: Routledge. The excellent research assistance of Perada Dulyapiradis, Ramesh Paudel and Moh Agung Widodo is gratefully acknowledged. The author is responsible for all defects.

Space limitations prevent full presentation here of the evidence underlying all the analysis summarized in this paper and I will therefore draw extensively on past published work by myself and colleagues, updated where necessary for the present study.

Economic growth

Aggregate economic performance

Despite its many limitations, the level of real GDP per capita – the level of economic output, adjusted for inflation, per member of the population – is widely considered the most useful single measure of economic performance, provided it is supplemented by other relevant indicators. Figure 1 summarizes real GDP per capita in each year (vertical bars) and its growth rate (solid line) for the period 1951 (the first year for which official GDP data are available) to 2017 (the most recent at the time of writing). Over the six and a half decades captured by these data, a little under one human life span, real GDP per person expanded by a factor of about 13, growing at an average annual rate of 4 per cent. Despite this comparatively good long-term outcome, growth was far from uniform over time. The figure identifies seven sub-periods, based on the economic outcomes observed.

[Figure 1 about here]

Period I: Post-war recovery (1951 to 1958). Annual growth of economic output per person fluctuated widely, between negative 7.4 percent and positive 14.3 percent, averaging 2.5 percent per annum over this period. The policy priority of this time was not fostering growth but containing price inflation, which had reached almost 100 per cent per annum during the final year of World War II. The cause of the hyperinflation had been high levels of spending by the occupying Japanese military regime in Thailand, financed by printing money

(Nidhiprabha 2018). The inflation was successfully contained, though at high cost, by restrictive fiscal and monetary policies, including an inefficient multiple exchange rate system (Corden 1967), maintained until unification of the exchange rate in 1955.

Period II: Sustained, moderate growth (1959 to 1986). The average annual growth rate of real GDP per person was 4.3 per cent, compared with an average of just over 2 per cent for all low and middle-income countries over the same period, according to World Bank data. This was an extended period of moderate growth combined with macroeconomic stability.

Period III: Economic boom (1987 to 1996). Over this critical decade, the Thai economy was the fastest growing in the world, with real GDP per person growing at an average annual rate of 7.3 per cent (Warr and Nidhiprabha 1996). In contrast with the pessimism at the end of World War II, by the mid-1990s 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. During this boom period, Thailand's economic performance was frequently described by economists and others as an example that developing countries elsewhere might emulate. Its principal economic institutions, including its central bank, the Bank of Thailand, were cited as examples of competent and stable management.

Period IV: Asian Financial Crisis (1997-99). The Asian Financial Crisis (AFC) was the collapse of the preceding decade of economic boom. The crisis was a major turning point for Thailand. Mis-management of exchange rate policy was central to it. Through 1996 growth of real GDP per person slowed to 3.3 per cent and export performance was especially sluggish. A moderate depreciation of the Thai baht was widely anticipated. This expectation provoked an outflow of mobile financial capital, as holders of these funds attempted to avoid

a decline in the foreign currency value of their funds. The central bank, the Bank of Thailand (BOT), resisted a depreciation, partly because a currency depreciation would increase domestic inflation, but their insistence that there would be no depreciation was widely disbelieved.

Through early 1997 the capital outflow became so large that the foreign exchange reserves of the BOT were exhausted, forcing the government to accept a humiliating IMF bailout. The currency was floated on 2 July 1997 and immediately depreciated by 20 per cent. Over the following months, the baht/US dollar exchange rate, now market-determined, would fall from 25 to over 50, before stabilising at around 40. Thai firms who had borrowed in dollars and were obliged to repay in dollars were quickly bankrupted because their earnings in baht were insufficient to meet their repayment obligations, made much larger in baht terms by the depreciation. Domestic investment declined dramatically. Many financial institutions became insolvent. Over the two years 1997 and 1998 real GDP per person fell by a combined 14 per cent.

Period V: Recovery from the Asian Financial Crisis (2000-07). Following the AFC, Thailand's rate of economic recovery was moderate, and has remained so ever since. In a very real sense, Thailand has never fully recovered from the loss of business confidence caused by the AFC. From 2000 onwards growth of real GDP was positive but below its long-term trend. It was not until 2003 that the level of real GDP per capita again reached its pre-crisis level of 1996. Both private domestic investment and foreign direct investment (FDI) remained sluggish. Despite this gloomy story, it is appropriate to recognise that despite the slower than expected recovery, moderate growth did occur. In 2007 the level of real economic output per person was 20 per cent above its 1996 pre-crisis level and almost 10 times its level of 1951.

Period VI: Global Financial Crisis (2008-09). The Global Financial Crisis (GFC) of 2008-09 originated in the United States housing market. It affected Thailand primarily through trade in goods—a contraction in global demand for its manufactured exports—rather than through Asian financial markets, as was the case of the AFC a decade earlier. The effect on Thailand was smaller than the AFC, but still significant, and it had political consequences. Unemployment among unskilled and semi-skilled industrial workers, many from the northern and north-eastern regions of the country, contributed in part to the political instability from 2008 to 2011 period, culminating in July 2011 with the election of the populist *Pheu Thai* government, led in absentia by the now-exiled former Prime Minister Thaksin Shinawatra.

Period VII: Recovery from the Global Financial Crisis (2010-17). Over the eight years from 2010 to 2017 average annual growth of real GDP per person recovered to 3.4 per cent. The first half of this interval was politically turbulent. The average rate of GDP growth per person was 3.6 per cent, slightly below the long-term average since 1951, of 4 per cent. A military coup occurred in May 2014, justified by the new government on the grounds that the coup was necessary to establish political stability, implement reforms, promote economic progress and thereby 'restore happiness'. Regarding economic progress, over the four years of military government up to the end of 2017, roughly the maximum duration that a democratically elected government might expect, the average rate of GDP growth per person was just under 3.1 per cent – below the long-term average growth rate and below the rate achieved over the four years prior to the coup.

Comparison with other East Asian countries

The importance of the AFC for Thailand's economic performance is apparent from Figure 1. This point is reinforced by comparing Thailand's economic performance with other East Asian countries. Figure 2 compares pre-crisis economic performance in seven East Asian

countries over the pre-crisis decade by indexing the level of real GDP in 1986 to 100 in each country. Growth performance can then be assessed by comparing the graph for each country. Over this decade before the AFC, Thailand was the star performer. Figure 3 then compares this exercise with the two decades following the AFC by indexing the 1996 level of real GDP to 100 in each country. Since the crisis, Thailand has been the weakest performer. The AFC was a turning point for the Thai economy to an extent not matched by any other country.

[Figure 2 about here]

[Figure 3 about here]

Structural change

A universal feature of growing economies is the decline of agriculture both as a share of the value of output and as a share of total employment (Timmer 2014). Correspondingly, the output and employment shares of industry and services both expand. Thailand's experience is typical in this regard. Figure 4 shows that agriculture's share of GDP contracted from 36 per cent in 1960 to 9 per cent in 2017. Industry's share (including manufacturing and construction) expanded from 19 to 35 per cent, while services expanded from 45 per cent to 56 per cent over the same period.

[Figure 4 about here]

There are two principal causes for this long-term process of structural change. The first, and best understood, operates on the demand-side of the economy. As real incomes rise, consumers allocate an increasing share of their total budgets to non-food items such as manufactured goods and services and a declining share to food. The declining demand for agricultural output as a share of total demand induces a decline in the prices of agricultural products relative to other goods, squeezing resources out of agriculture.

A second, less well-understood contributor to structural change operates on the supply-side of the economy, rather than the demand-side phenomena described above. At the economy-wide level, as capital accumulates relative to labor, full employment of both capital and labor require that economic sectors that are more capital-intensive expand at the expense of sectors that are more labor-intensive. As capital-intensive sectors expand, they require additional workers, which they obtain by drawing labor from agriculture. In the economics literature, this phenomenon is known as the Rybczynski effect. Martin and Warr (1994) provided evidence that in the Thai context this supply-side phenomenon was a more important cause of agriculture's relative decline than the demand-side effects of a diminishing demand for food relative to other goods.

At the same time as agriculture's output share declines, its employment share also falls; but it typically does so more slowly. This is especially true of Thailand. In 1960 agriculture employed around 65 per cent of the Thai workforce, and by 2017 this share had fallen to 33 per cent. As noted above, its GDP shares in the corresponding years were 36 per cent and 9 per cent, respectively. Based on these data, in 1960, the ratio of agriculture's output share to its employment share was 0.55. The disparity has increased over time. By 2017 these shares were 33 per cent and 9 per cent, respectively, and the ratio of agriculture's output share to its employment share had declined to 0.27.

Output shares are equivalent to income shares. Incomes per worker have remained substantially lower in agriculture than elsewhere and this fact explains why workers left agriculture. Over time, agricultural workers have become more impoverished relative to those employed elsewhere because the sectoral structure of employment has not kept pace with the rapidly shifting sectoral structure of incomes. Agricultural workers have exited farming too slowly to maintain their incomes relative to those employed in the expanding and more

lucrative sectors of the economy. This simple account explains the lower living standards experienced in rural areas of the country than in urban areas and why poverty incidence has continued to be concentrated in rural areas. Farmers are poor, primarily because there are too many of them. But poor rural people can be mobilised politically. Recognition of this fact was the basis for the political success of the movement led by Thaksin Shinawatra and his successors (Kosuke and Pasuk 2009).

The drivers of long-term growth

Where did Thailand's economic growth come from? In studies of long-term growth, the basic distinction is between growth of the quantities of factors of production employed and growth in their productivity. Empirical attempts to implement this distinction are known as growth accounting, building on the pioneering work of Solow (1957). Warr (2014) presented a detailed growth accounting exercise for Thailand and the discussion in this section draws heavily on its findings.

This kind of analysis rests on the assumption that output is primarily supply constrained—aggregate demand was not the binding constraint on output. That is generally appropriate for long-term analyses, but not necessarily for short-term analyses, where aggregate demand may be the binding constraint. The AFC and its aftermath is an example of demand-constrained growth. In growth accounting, detailed data are assembled on outputs produced over time and the factor inputs used to produce it. Changes in productivity are then inferred as a residual – the difference between the growth rates of these two quantities. It is important that factor inputs are adjusted for quality. For example, data on labor 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 their changing quality by disaggregating by irrigated and non-irrigated land and then re-aggregating these components using data on relative land prices.

The findings of this analysis for Thailand, covering data for the two decades following 1980, were that factor inputs accounted for 90 per cent of output growth and that productivity growth accounted for the remaining 10 per cent. Drawing on Paul Krugman's metaphor, 90 per cent of the growth was due to perspiration and only 10 per cent due to inspiration. The composition of the factor input growth is informative. Expansion of raw labor inputs – the number of workers – explained 15 per cent of the output growth. The growth of human capital – the skill-adjusted quality of the workforce – accounted for just 5 per cent. Growth of agricultural land (expansion of the cultivated frontier) explained 3 per cent. The principal source of growth, accounting for two-thirds of the output growth, was the quantity of physical capital – machines, buildings and public infrastructure. In passing, it is important to note the unusually small contribution of human capital growth. Thailand's growth was not based on upgrading the skills of the Thai population. It was based primarily on investment in physical capital.

Expansion of the stock of physical capital comes from investment, derived from three sources: foreign capital inflow; public investment; and domestic private investment. In public discussion, the importance of foreign investment as a contributor to overall capital formation is often exaggerated. Foreign investment has accounted for only 4 per cent of aggregate capital formation in Thailand. Public investment in physical infrastructure accounted for 27 per cent and domestic private investment, accounted for 69 per cent of all capital formation. The implication is that to understand Thai economic growth, understanding private investment in physical capital is the key.

Over the long term, financing of private investment in physical capital within Thailand has been primarily through domestic savings. But a significant change occurred during the economic boom decade of 1987 to 1996. The proportion of total investment that was financed by short-term capital inflows – short-term borrowing from foreigners – increased significantly. This proportion increased from 2 per cent in the decade before the boom (the decade 1977 to 1986) to 23 per cent during the boom decade (1987 to 1996) and the proportion steadily increased during the boom decade. This short-term borrowing, denominated in dollars, helped finance the investment boom of 1987 to 1996, but it also sowed the seeds of the crisis of 1997–99. As discussed below, the accumulated stock of mobile foreign-owned capital grew to levels exceeding 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 what happened in July 1997.

The behavior of aggregate private investment helps explain Thailand's economic boom prior to the AFC, the collapse of growth during the AFC, and its sluggish performance ever since (Vines and Warr 2003). During the pre-crisis boom decade, total investment accounted for an enormous 38.8 per cent of GDP in Thailand. During the crisis period of 1997-99 it contracted to 24.8 per cent and in the post-crisis period of 2000 to 2016 it has averaged 25.2 per cent. Investment collapsed during the crisis and it has never fully recovered. Why? Private domestic investment is driven by business confidence. Thailand has continued to grow slowly since the crisis because business confidence has never fully recovered from the devastation of 1997 to 1999. The AFC showed that exposed investors could be bankrupted by macroeconomic tsunamis over which they have no control and where they have little or no forewarning. Within Thailand, they have been more cautious ever since.

Thailand is not unique in this respect. Figure 3 summarizes total investment as a share of GDP in the four East Asian countries that were most affected by the AFC: Thailand, Indonesia, Malaysia and Korea. The contraction of the GDP share of investment in Thailand, beginning in 1997, is very stark. Although Thailand is the extreme case, the same contraction can be seen, to a lesser extent, in each of the other three crisis-affected countries, least so of Korea. The message is that restoration of business confidence, following a crisis like the AFC, is not easily achieved. Each country is different, but caution must be exercised in searching for country-specific causes of events like the loss of business confidence following the AFC. The decline of investor confidence has been region-wide, at least among the countries seriously affected by the crisis.

[Figure 3 about here]

Why did the Asian Financial Crisis originate in Thailand?

Over the (almost) four decades between 1959 and 1996 (Periods II and III in Figure 1), Thailand's real output per head of population expanded continuously. Not a single year of negative growth was recorded – a unique achievement among oil-importing developing countries. But this long period of economic success had a downside. It fostered complacency among Thai policy makers. Their prevailing view was that sustained success proved the country was on the right path. The appropriate policy framework was just more of the same. Any criticism could be safely ignored. During 1997 that over-confidence became very costly.

As noted above, in 1996 export growth slowed. In normal circumstances, an appropriate policy response would have been a moderate currency depreciation. This response was indeed expected, provoking an outflow of mobile financial capital. By converting baht to

dollars before a depreciation and then returning to baht after it, holders of mobile funds could achieve a capital gain. The capital outflow was initially small. Perversely, it was interpreted by the Bank of Thailand (BOT) as the work of malign currency speculators hoping to outwit the Bank and profit from a depreciation. BOT officials wished to punish this speculative behaviour, as well as to minimize inflation, by resisting any such exchange rate adjustment. That was a mistake.

The decade of economic boom prior to the crisis had been fuelled by unprecedented levels of investment. During that decade, this investment had been financed increasingly by inflows of highly mobile short-term financial capital and not just by domestic savings and long-term inflows of foreign direct investment. During the protracted boom, these short-term inflows had gradually accumulated into a massive sum. Warr (1999) showed that by 1994 the accumulated stock of short-term foreign-owned capital exceeded the level of the BOT's international reserves. By 1997 that stock was almost double the level of reserves.

These funds are highly mobile. They could exit the country almost as readily as they had entered. In 1996 and early 1997 the expectation of a currency depreciation encouraged the conversion of this short-term mobile capital from baht into foreign currency. In this set of circumstances, the widely-held expectation of a currency depreciation meant that either an actual depreciation or a currency crisis was inevitable; Thailand's foreign exchange reserves were insufficient to defend the fixed exchange rate in the presence of a sustained capital outflow.

Thailand's fixed exchange rate policy had been in place since 1955. It was initially introduced and subsequently maintained to control domestic inflation, seen by the BOT as its principal task. The fixed exchange rate, combined with an open capital market, meant that the BOT was obliged to convert Thai currency into US dollars or other international currencies at

this fixed rate, upon demand. To do that in the presence of a net capital outflow, the Bank had to draw upon its international reserves. The BOT insisted its reserves were adequate to withstand any capital outflow and denied that an exchange rate depreciation was under consideration. In taking this position, the BOT had under-estimated the volume of Thai baht that might be presented for conversion to foreign currency. As the capital outflow gained pace, the BOT literally ran out of reserves. There was then no alternative to a huge depreciation. The belated decision to in July 1997 to abandon the fixed exchange rate and float the currency led to a dramatic decline in the commercial value of the Thai baht.

For Thailand and for most of its people, the consequences were ruinous. The domestic economy was in disarray, with levels of output and investment contracting and poverty incidence rising sharply. The government was compelled to accept a humiliating International Monetary Fund (IMF) bailout package, the financial system was largely bankrupted and confidence in the country's economic institutions, including the BOT, was shattered. Internationally, far from an example for others Thailand was now characterised as the initiator of a 'contagion effect' in Asian financial markets, undermining economic and political stability and bringing hardship to millions of people.

The crisis itself also had severe negative economic impacts on Indonesia, Malaysia and Korea, and to a lesser extent The Philippines. Although Thailand was the first to succumb, and policy failures in Thailand were crucial, as explained above, it is superficial to say that events in Thailand 'caused' the crisis in other countries. The boom of the previous decade had produced vulnerability to a financial crisis in Thailand and these conditions went unnoticed by both the Thai authorities and the IMF. But similar conditions of vulnerability had developed in each of the countries that subsequently succumbed to the crisis, and like Thailand, they were all following fixed exchange rate policies.

Thailand's currency crisis provided the trigger for the broader financial effects experienced elsewhere. It caused the expected depreciation of fixed exchange rates in other countries, provoking capital outflows that in vulnerable countries – like Thailand, Indonesia, Malaysia and Korea – compelled large actual depreciations. The underlying source of this vulnerability – huge stocks of volatile short-term capital combined with misguided attempts to maintain fixed exchange rates – was shared by all the crisis-affected countries, having developed over the preceding decade, but not by the many countries of Asia and elsewhere that did not succumb to the crisis (Warr 2002). Given this vulnerability and the commitment to fixed exchange rates, the crisis was a disaster in waiting.

In triggering the expectation of a depreciation, the circumstances of 1996 and early 1997 in Thailand determined the timing of that crisis. But a similar trigger could have arisen in any of the other vulnerable countries, at any time. The underlying cause was not this particular trigger, but the failure to recognize the developing signs of crisis vulnerability and to act accordingly. In the context of highly mobile financial capital, exchange rate flexibility was essential because if the expectation of a depreciation developed, the attempt to maintain fixed exchange rates would be sure to produce a currency crisis. The central banks of the crisis-affected countries, including Thailand, must bear responsibility for this intellectual and policy failure, along with the IMF, whose role is to monitor and advise on exactly these matters.

Within Thailand, the economic damage done by the crisis of 1997–99, and the hardship that resulted 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. Figure 1 above shows that 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 in 1996, a level not reached again until 2003. 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 the level of 1951.

The AFC had political consequences within Thailand. As argued above, the inept management of the exchange rate crisis of 1997 reflected an over-confidence made possible by the long period of sustained economic success that preceded it. The consequence was not merely widespread suffering, but also public doubt regarding the competence of the ruling elite. For many Thai people, it no longer seemed safe to assume that the governing elite knew what was best. Perhaps a different kind of leadership was needed. This shift of public perception contributed to the election in 2001 of the populist *Thai Rak Thai* government led by the businessman Thaksin Shinawatra.

How equitably has the growth been distributed?

Is economic growth really so desirable? If all the gains from growth went to those who were already rich, its social value would surely be dubious. Do the poor benefit? Despite much debate 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 north eastern 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.
- 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.

Thailand's official poverty estimates are produced by the government's National Economic and Social Development Board (NESDB), based upon the household incomes and expenditures captured in the National Statistical Office's Socio-economic Survey (SES) household survey data, collected periodically since 1962. It is well-understood that in all countries, but to varying degrees, household survey data of this kind understate true inequality. The very rich and the very poor are both under-represented in their sample coverage (Cowell 1995, Houghton and Khandker 2009). Despite their imperfections, these are the only household level data available covering a long time period. Since 1988 the raw data have been available in electronic form. Table 1 summarizes these data, focusing on the familiar headcount measure of poverty incidence: the percentage of the population whose household incomes per person fall below the official poverty line, held constant in real purchasing power over time.

[Table 1 about here]

The data reveal a massive decline in poverty incidence during the boom decade ending in 1996. Measured poverty incidence declined by an extraordinary 27.9 per cent of the population, an average rate of decline in poverty incidence of 3.5 percentage points per year. That is, each year, on average 3.5 per cent of the population moved from incomes below the poverty line to incomes above it. This was followed by an increase in poverty incidence, during the AFC and its aftermath, from 1996 to 2000. Over this four-year interval, poverty incidence increased by 4.5 per cent of the population.

Alternatively, over the eight years ending in 1996 the total number of persons in poverty declined by 11.1 million (from 17.9 million to 6.8 million); over the following four years the number increased by 1.8 million (from 6.8 to 8.6 million). Thus, according to the official data, measured in terms of absolute numbers of people in poverty, the crisis and its aftermath reversed one sixth (16 per cent) of the poverty reduction that had occurred during the eight-years of economic boom that preceding the crisis.

It is notable that this increase in poverty incidence following the AFC was larger in rural areas (5.7 per cent of the rural population) than in urban areas (1.4 per cent of the urban population). Most of Thailand's poor people continue to reside in rural areas. Taking account of the populations of rural and urban areas, in 2016 rural areas accounted for 50 per cent of the total population, but just over 90 per cent of the total number of poor people.

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 very 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 6, which plots the relationship between changes in poverty incidence, calculated from Table 1 and the real rate of growth of GDP over the corresponding periods.

[Figure 6 about here]

The annual rate of economic growth is negatively correlated with the annual change in poverty incidence. That is, periods of more rapid economic growth were associated with more rapid reductions in the level of 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 to mid-1990s coincided with dramatically reduced poverty incidence. The contraction of 1997–98 and the subsequent recession to 2000 led to increased poverty incidence. The recovery since the crisis has been associated with sustained, but moderate poverty reduction. It cannot be said that economic growth fails to benefit poor people.

The final column of Table 1 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 is high by international standards. It increased sharply during the boom decade of 1986 to 1996. Combined with the large reduction in absolute poverty which occurred at the same time, this means that during the boom decade the real incomes of the poor increased with economic growth, but the real incomes of the rich increased even faster. The measured Gini coefficient has declined since 2000, suggesting a moderate reduction in inequality. This feature of the official data on inequality is disputed (Pasuk and Baker 2015), but when combined with the increase in inequality during the boom period it does suggest the hypothesis that rapid economic growth raises inequality while slower growth reduces it.

Finally, Tables 2 and 3 draw upon the Socio-economic Survey (SES) household survey data to compare the distribution of household incomes per household member across the population, covering the three decades since 1986. Quintile 1 means the poorest one-fifth of the population. Quintile 2 is the next richest one fifth, and so on, up to Quintile 5, which is the richest one fifth of the population. Decile 10 means the richest one tenth of the population and Centile 100 means the richest one per cent. In Table 3, the real income data shown in Table 2 are converted to shares of total income by dividing each real income level by the total

of all household incomes. Like the Gini coefficient data shown in Table 1, these data suggest an increase in income inequality during the boom decade and a subsequent decline.

[Table 2 about here]

[Table 3 about here]

Is Thailand caught in a 'middle-income trap'?

Beneath the macroeconomic events summarized above lies a deeper and longer-term economic process. Between World War II and the present, Thailand has achieved the transition from a poor, heavily rural backwater to a middle-income, semi-industrialised and globalised economy. This transition required some elementary market-friendly policy reforms: promoting a stable business environment (not necessarily equivalent to stable politics), open policies with respect to international trade and foreign investment, and public provision of basic physical infrastructure, including roads, ports, reliable electricity supplies, telecommunications and policing sufficient to protect the physical assets created by business investment. The process was primarily market-driven and the central policy imperative was to support the shift from low-productivity agriculture to export-oriented labor-intensive manufacturing and services.

A transition just like this occurred in most of East and Southeast Asia. The pattern was similar in all countries that undertook the basic policy reforms listed above. During this process, average real incomes rose significantly, the share of the workforce employed in agriculture contracted and the incidence of absolute poverty fell. The core of this growth process is expansion of the physical capital stock, resting overwhelmingly on private domestic investment. The private financial system facilitates the process by channelling household savings into business investment.

But the process is self-limiting. As labor moves from low-productivity agriculture to more rewarding alternatives elsewhere, wages are eventually driven up. As wages rise, the profitability of labor-intensive development declines. Rising wages lower the return to investment in physical capital, the rate of private investment slackens and growth slows. The frontier for further expansion of labor-intensive export-oriented development moves to other, lower-wage countries, such as Thailand's immediate neighbors to the north, east and west. Growth then slows.

Development based on relocating labor from low-productivity agricultural activities to export-oriented, labor-intensive manufacturing and services – fuelled by private investment in the stock of physical capital and public investment in physical infrastructure – can raise a country from low-income to middle-income levels. But it is incapable of raising the country from middle-income to higher-income levels. The result is the dreaded, but seldom-explained 'middle-income trap'.

Escape from the trap requires addressing a key market failure: the undersupply of human capital. Human capital is a crucial input, created primarily by investment in education, broadly defined. But unlike physical capital it does not provide the collateral that can secure repayment of loans. Physical assets may remain in place but human beings can walk away. Hence, the private financial system does not support investment in human capital. Individual families can and do invest heavily in the education of their own children, but because their resources are limited and because the recipients of the educational investment reap only part of the returns it generates, this is insufficient to resolve the overall underinvestment in human capital.

Expanding the supply of human capital is central to overcoming the middle-income trap. By upgrading the quality of the workforce, it raises labor productivity and raises the

return to physical capital, encouraging greater investment in physical capital as well. In Thailand, as in many other middle-income countries, the problem lies in the quality of education and not just the bare numbers of total school enrolments. The problem is primarily not at the tertiary level, but at the primary and secondary levels, and it is more severe in rural than in urban areas. This problem is not unique to Thailand and it is not new (Sirilaksana 1993). Massive public investment and reform of the education curriculum is needed, which in turn requires the raising of sufficient tax revenue to finance it and combating the self-serving practices of the Ministry of Education and the teachers' unions. Other countries have addressed this problem. Thailand has not. Until it does, there will be no escape from Thailand's version of the middle-income trap.

Conclusions

This paper has focused on five aspects of Thailand's economic performance since World War II: the changing rate of growth and its composition; the sources of that growth; the causes and consequences of the Asian Financial Crisis (AFC) of 1997 to 1999, including the reason it originated in Thailand; the distribution among the Thai population of the fruits of long-term growth; and whether Thailand is caught in a middle-income trap.

The AFC was a turning point for Thailand, as it was for several other East Asian countries. During the decade of economic boom preceding the AFC, Thailand's average annual growth rate of real GDP per person was a remarkable 7.3 per cent. Since 2000 the corresponding growth rate has been less than half that. The immediate cause was a contraction of investment in physical capital. Gross capital formation declined as a proportion of GDP from an average of 38 per cent to 25 per cent over the same two periods. The effect of lower investment was twofold: it reduced aggregate demand, lowering income in the short-run, and it reduced the rate of capital formation, lowering long-run growth prospects.

Following the AFC, a decline in this investment ratio occurred in all the crisis-affected Asian economies, including Indonesia, Malaysia and South Korea; but the decline in Thailand was especially large. Put simply, after the crisis private investors became less confident about Thailand's prospects and thereby less inclined to invest. An expectation of this kind is self-fulfilling; it reduces investment, which ensures that growth will indeed be lower.

The evidence from Thailand demolishes the notion that economic growth fails to benefit the poor – provided 'benefit' is understood in absolute terms. The story is different if 'benefit' is measured in relative terms. The Thai historical experience provides some evidence that very high rates of economic growth have benefited the rich proportionately more than the poor and that lower rates of growth do the opposite.

Finally, it is argued in this paper that Thailand is now caught in a 'middle-income trap', caused by a backward and under-resourced educational system. It is a 'trap' of the country's own making, not one imposed by others. Exit from the trap is possible, but requires a public commitment to overcoming the under-supply of human capital that a market-based economic system inherently produces. This requires raising both the quantity and quality of the country's investment in education, primarily at the secondary level. It will be costly, requiring an increased level of public revenue, and it will take many years to produce observable results. The set of 'reforms' ostensibly being implemented by the current Thai government make no mention of this fundamental problem.

References

Asian Development Bank, K*ey Indicators for Asia and the Pacific*, (Manila: Asian Development Bank, various years). URL: https://www.adb.org/publications/series/key-indicators-for-asia-and-the-pacific. [accessed 15 September 2017].

Bank of Thailand http://www.bot.or.th/english/Pages/BOTDefault.aspx, [accessed 15 September 2017].

Bhanupong Nidhiprabha. 2018. *Macroeconomic Management of the Thai Economy*. London: Routledge, forthcoming.

Chalongphob Sussankarn and Pranee Tinakorn. 1988. *Productivity Growth in Thailand, 1980 to 1995*. Bangkok: Thailand Development Research Institute.

Corden, W. M. and H.V. Richter. 1967, "The Exchange Rate System and the Taxation of Trade". In *Thailand: Social and Economic Studies in Development*. Edited by T.H. Silcock. Canberra: Australian National University Press.

Cowell, F. A. 1995. *Measuring Inequality*, 2nd ed. Hemel Hempstead, UK: Harvester Wheatsheaf.

Houghton, J. and S. R. Khandker. 2009. *Handbook on Poverty and Inequality*. Washington, DC: World Bank.

Ingram, James C. 1971. *Economic Change in Thailand: 1850–1970*. Stanford, CA: Stanford University Press.

Krugman, Paul. 1994, "The Myth of Asia's Miracle". *Foreign Affairs*. Vol. 73: 62-78.

Martin, Will and Peter Warr. 1994, "Determinants of Agriculture's Relative Decline: Thailand". *Agricultural Economics*. Vol. 11: 219-35.

Mizuno, Kosuke and Pasuk Phongpaichit. 2009. *Populism in Asia*. Singapore: National University of Singapore Press.

National Economic and Social Development Board, http://www.nesdb.go.th/ [accessed 15 June 2018].

Pasuk Phongpaichit and Chris Baker (eds). 2015. *Unequal Thailand: Aspects of Income, Wealth and Power*. Singapore: NUS Press.

Sirilaksana Khoman. 1993. 'Education Policy'. In Peter Warr (ed.), In, *The Thai Economy in Transition*. Edited by Peter Warr. Cambridge: Cambridge University Press.

Solow, Robert M. 1957, "Technical Change and Aggregate Production Function". *Review of Economics and Statistics*. Vol. 39: 312-320.

Sompop Manorungsan. 1989. *Economic Development of Thailand, 1850–1950*. Institute of Asian Studies Monograph 42. Bangkok: Chulalongkorn University.

Timmer, C. Peter. 2014. “Managing Structural Transformation: A Political Economy Approach”, UNU-WIDER Annual Lecture, Helsinki. Available at www.wider.edu.au.

Vines, David and Peter Warr. 2003, “Thailand's Investment-driven Boom and Crisis”. *Oxford Economic Papers*. Vol.55: 440-464.

Warr, Peter. 1993. ‘The Thai Economy’. In *The Thai Economy in Transition*, Edited by Peter Warr. Cambridge: Cambridge University Press.

Warr, Peter. 1993, “What Happened to Thailand?”. *The World Economy*. Vol.22: 631–50.

Warr, Peter. 2002, “Crisis Vulnerability”. *Asia Pacific Economic Literature*. Vol.16: 36-47.

Warr, Peter. 2005. “Boom, Bust and Beyond”. In, *Thailand Beyond the Crisis*. Edited by Peter Warr. London: Routledge.

Warr, Peter. 2014. “Thailand: Economic Progress and the Move to Populism”, In *Handbook of Emerging Economies*. Edited by Robert E. Looney. London: Routledge: 416-439.

Warr, Peter and Bhanupong Nidhiprabha. 1996. *Thailand's Macroeconomic Miracle: Stable Adjustment and Sustained Growth, 1966 to 1996*. Washington and Kuala Lumpur: World Bank and Oxford University Press.

World Bank (various years). *World Development Indicators*, available at URL: http://data.worldbank.org/indicator. [accessed 15 June 2018]

Table 1. Thailand: Poverty incidence and Gini coefficient, 1988 to 2016 (income-based)

	Poverty incidence (headcount measure, per cent of population)			Inequality (Gini coefficient)
	Aggregate	Rural	Urban	Aggregate
1988	44.9	52.9	25.2	0.488
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	0.521
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	0.508
2004	11.3	14.3	4.9	0.493
2006	9.5	12.0	3.6	0.515
2008	7.2	9.0	2.9	0.499
2010	5.8	7.3	2.6	0.490
2012	4.3	5.5	2.0	0.484
2014	3.5	4.3	1.9	0.465
2016	2.8	3.5	1.5	0.445[a]

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.

[a] The Gini coefficient for 2016 is not available. The number shown relates to 2015.

Source: Author's calculations using data from National Economic and Social Development Board. URL: http://www.nesdb.go.th/Default.aspx?tabid=322 [accessed 15 June 2018].

Table 2. Real income per person

(constant 2015 prices, CPI deflator)

Quintile group	1986	1996	2006	2017
Quintile 1 (poorest)	730.6	1,056.0	1,319.6	2,398.8
Quintile 2	1,282.1	1,907.9	2,654.2	4,359.2
Quintile 3	2,022.7	2,987.4	4,235.4	6,530.9
Quintile 4	3,350.4	5,027.8	7,014.2	10,008.9
Quintile 5 (richest)	9,349.3	14,265.7	19,568.4	24,367.1
Population mean	3,347.4	5,050.6	6,958.4	9,533.0
Decile 10 (richest)	13,169.9	20,164.0	27,826.0	33,646.5
Centile 100 (richest)	36,257.1	57,257.9	82,213.5	91,810.7

Source: Author ‘s calculations using data from National Economic and Social Development Board. URL: http://www.nesdb.go.th/Default.aspx?tabid=322 [accessed 15 June 2018].

Table 3. Thailand: Income shares

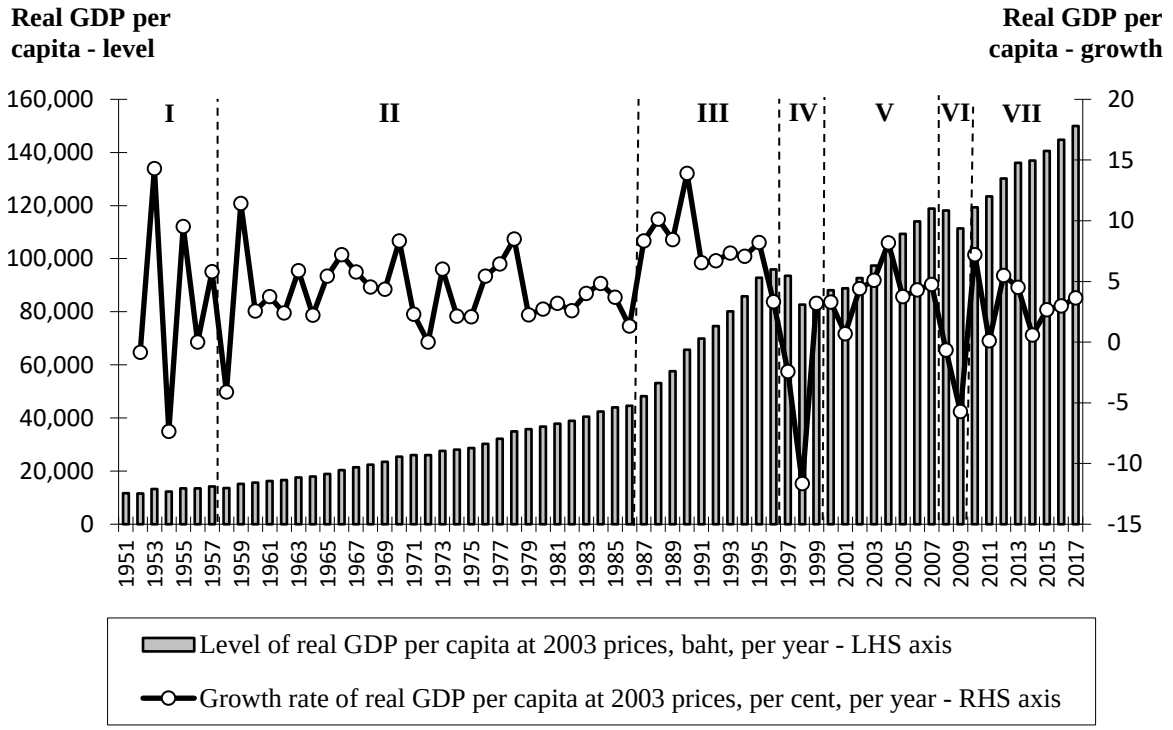
(percent of total income)

Quintile group	1986	1996	2006	2017
Quintile 1 (poorest)	4.36	4.18	3.79	5.03
Quintile 2	7.67	7.55	7.63	9.14
Quintile 3	12.09	11.83	12.17	13.70
Quintile 4	20.02	19.91	20.16	21.00
Quintile 5 (richest)	55.87	56.53	56.25	51.12
Total	100	100	100	100
Decile 10 (richest)	39.38	39.95	39.98	35.29
Centile 100 (richest)	10.77	11.34	11.76	9.63

Note: Income share means the total income of the group shown relative to the sum of all household incomes. For example, in 2017 the poorest one fifth of the population received 5 per cent of all household incomes while the richest one fifth received 51 per cent. The richest one tenth of the population received 35 per cent of all incomes and the richest one per cent received just under 10 per cent of all incomes.

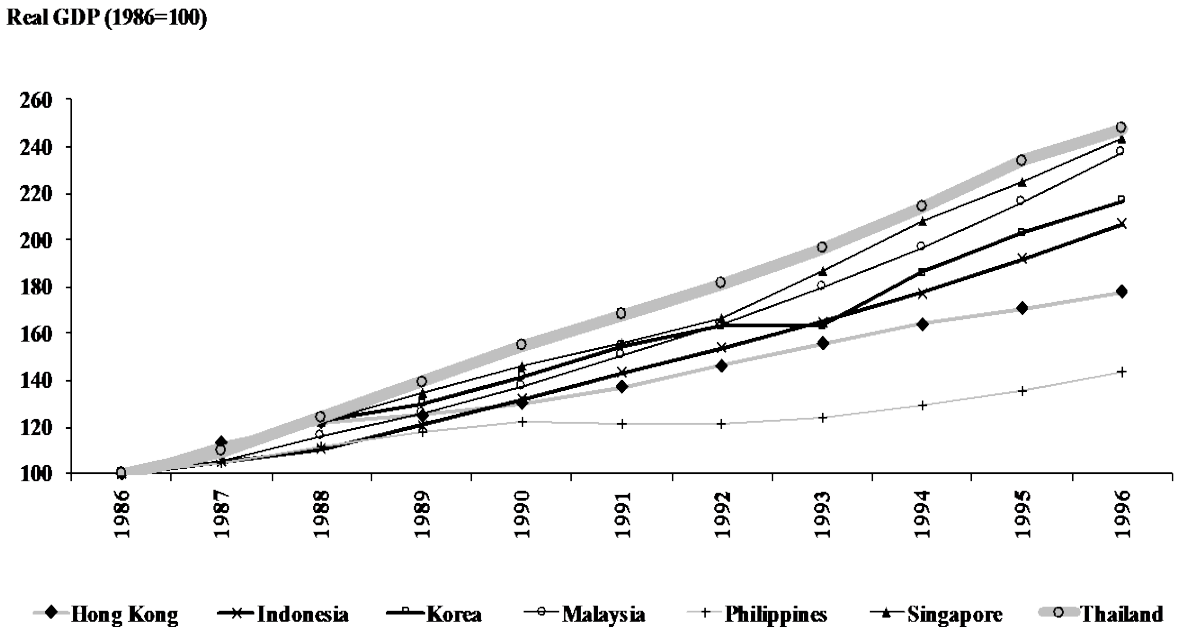
Source: Author's calculations from Table 2.

Figure 1. Thailand: Real GDP per capita and its growth rate, 1951 to 2017



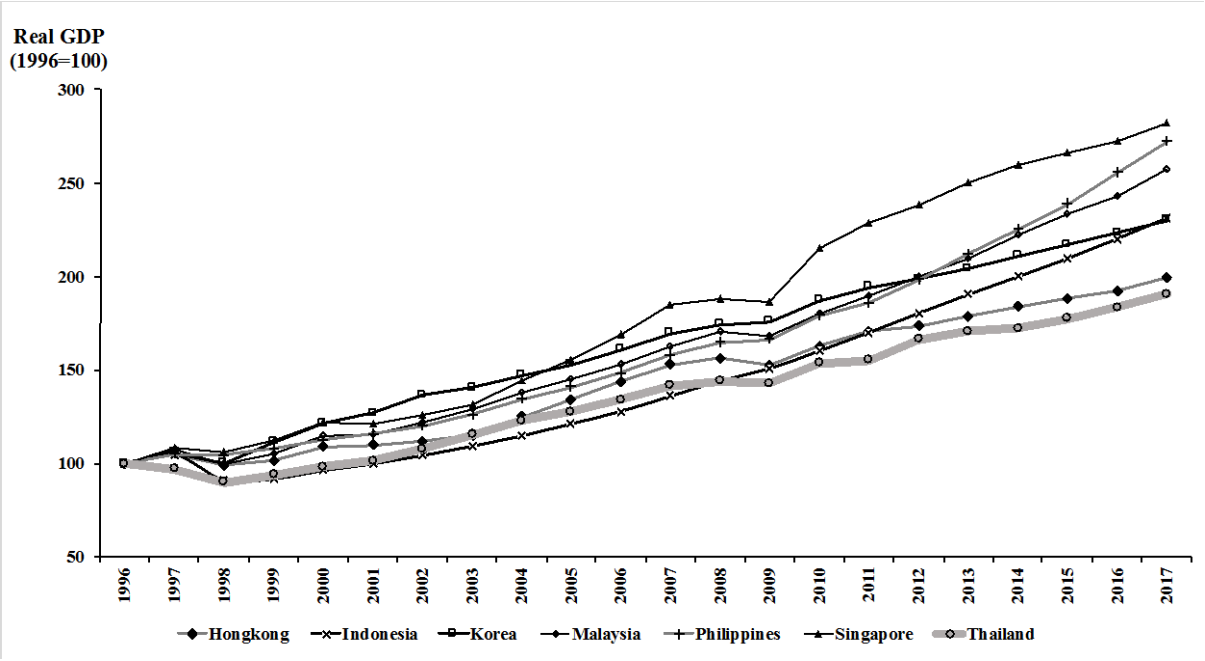
Source: Author's calculations, using data from National Economic and Social Development Board (NESDB), Bangkok. URL: http://www.nesdb.go.th/ [accessed 15 June 2018].

Figure 2. East Asia: Real GDP (a) 1986 to 1996 (1986 = 100)



Source: Author's calculations, using data from Asian Development Bank, K*ey Indicators for Asia and the Pacific*. URL: https://www.adb.org/publications/series/key-indicators-for-asia-and-the-pacific. [accessed 15 September 2017].

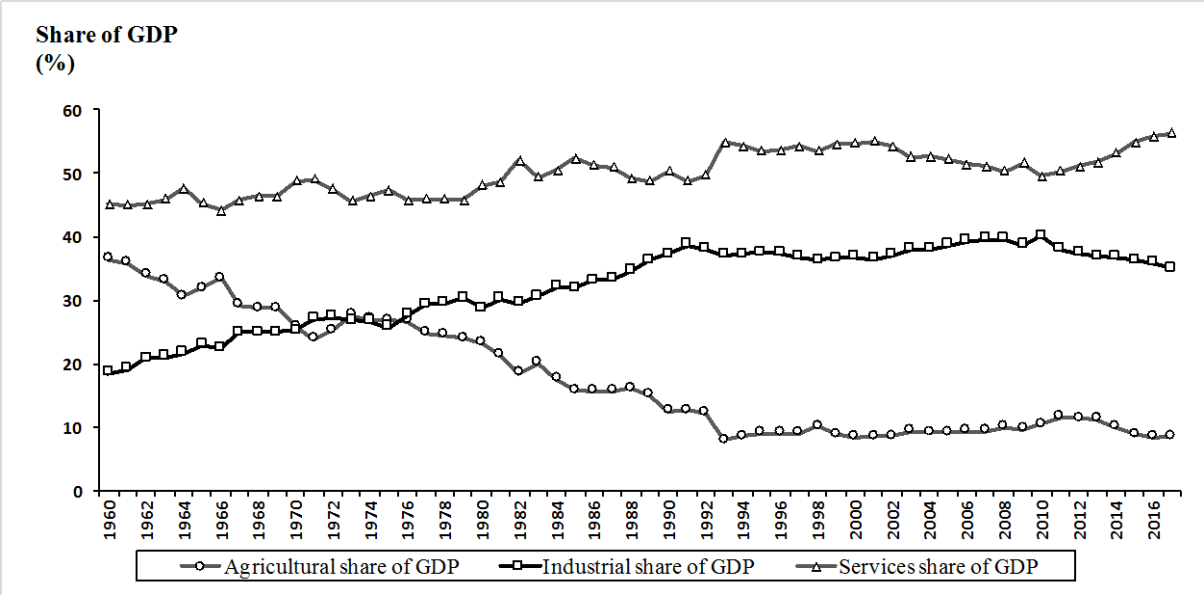
Figure 3. East Asia: Real GDP (b) 1996 to 2017 (1996 = 100)



Source: Author's calculations, using data from World Bank, *World Development Indicators.* Available at URL: https://datacatalog.worldbank.org/dataset/world-development-indicators. [accessed 15 June 2018]

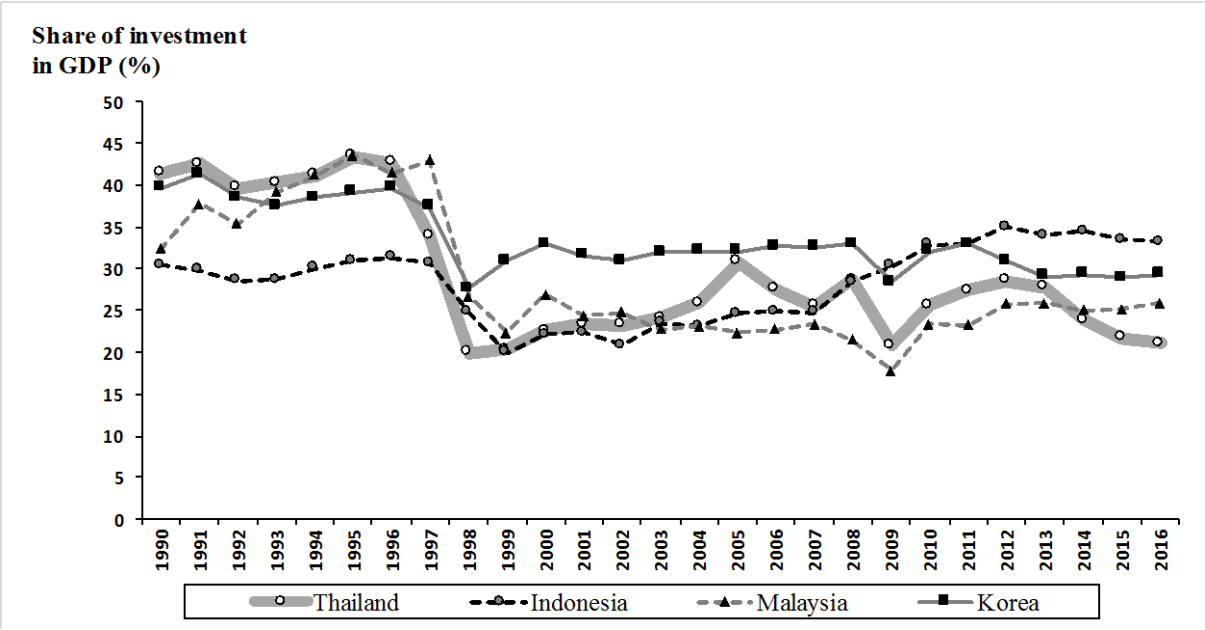
Figure 4. Thailand: Sectoral shares of GDP, 1960 to 2017

(per cent)



Source: Author's calculations, using data from World Bank, *World Development Indicators*. Available at URL: https://datacatalog.worldbank.org/dataset/world-development-indicators. [accessed 15 June 2018]

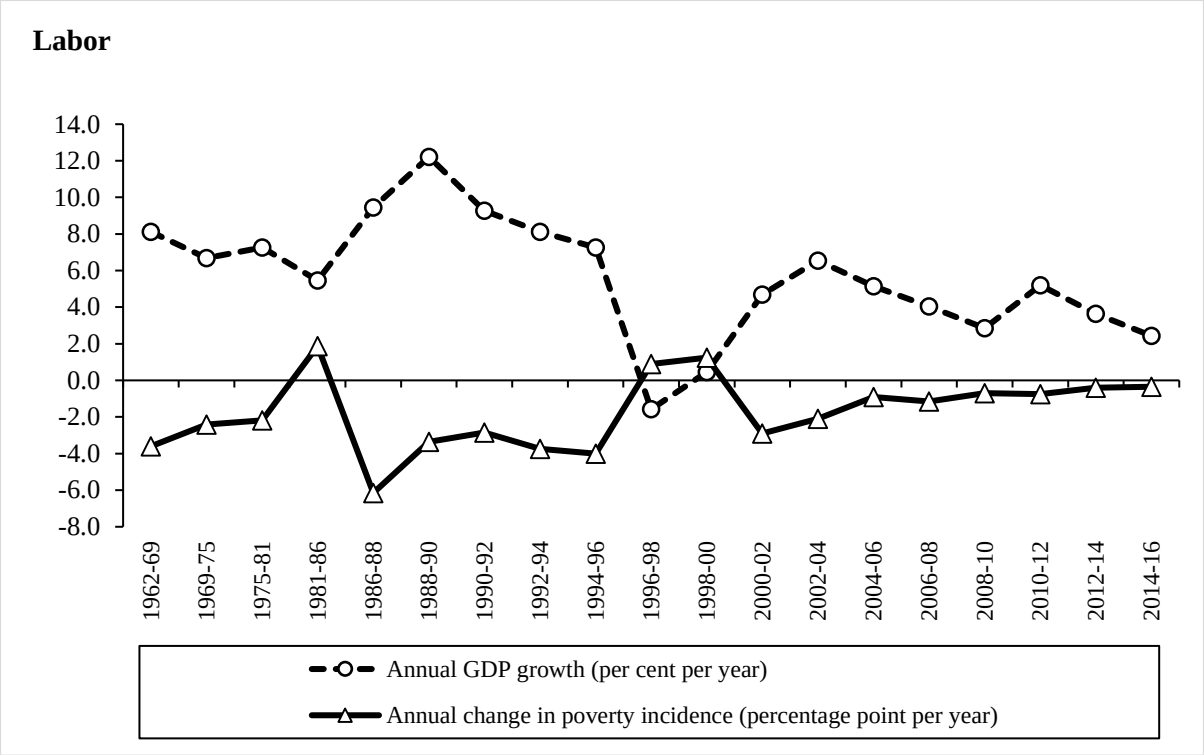
Figure 5. Crisis-affected East Asia: Investment shares of GDP, 1990 to 2016 (per cent)



Note: AFC-affected countries means those directly impacted by the Asian Financial Crisis of 1997-99.

Source: Author's calculations, using data from World Bank, *World Development Indicators.* Available at URL: https://datacatalog.worldbank.org/dataset/world-development-indicators. [accessed 15 June 2018].

Figure 6. Thailand: Poverty incidence and economic growth, 1962 to 2016



Source: Author's calculations using poverty data as in Table 3 and GDP data at constant prices from World Bank, *World Development Indicators.* Available at URL: https://datacatalog.worldbank.org/dataset/world-development-indicators. [accessed 15 September 2017]