The Australian Economic Review, vol. 30, no. 1, pp. 113–23

For the Student

Asia's Economic Miracle: An Historical Perspective

Malcolm Dowling
Department of Economics
The University of Melbourne

1. Introduction

The history of world economic growth tells us that for most of man's time on earth, living standards have increased very slowly. Economic output per capita probably did not change very much for thousands of years as economic activity remained at subsistence levels. Life expectancy was low, disease widespread, infant mortality high and population growth extremely slow. It has only been a few hundred years, since the beginning of the industrial revolution, that average living standards have improved significantly. Nevertheless growth between the end of the middle ages and the 19th century was still remarkably slow. Per capita income growth in Europe and North America averaged much less than one per cent per annum for most of this period. Maddison (1991) estimates that GDP per capita in Western Europe, North America and Australia grew by 0.21 per cent per annum between the year 1400 and 1820 (see Table 1)! Between 1820 and 1950 growth accelerated further, but it still averaged just 1.2 per cent per annum in industrial countries. It is only in the 50 years since the end of the World War II that economic growth has accelerated more quickly and living standards have improved rapidly. Even so, it took the United Kingdom, Germany, the United States and other countries many decades to reach a standard of living where they could be called 'developed'.

Table 1 GDP: Western Europe, North America and Australia
(US dollars per capita, 1985 prices)

Year	*GDP per capita*	*Annual growth*[a]
1400	430	
1820	1 034	0.21
1950	4 902	1.20
1989	14 413	2.80

Note: (a) Average annual growth rate calculated using the formula $100*\exp\{[\ln(A_{t+1}/A_t)]/n\} - 1$ where A_t and A_{t-1} are the value of GDP per capita at the start and end of each period and n is the number of years spanned by the period.

Source: Maddison (1991, p. 10).

In light of this slow evolution of growth and economic development in industrial countries, it is all the more notable that recently a few economies, mostly located within Asia, have recently been able to develop at a very rapid pace. When contrasted against slow historical growth throughout the world this record of achievement is truly remarkable. Maddison estimates that it took the industrial economies over four hundred years to achieve about a ten fold increase in per capita income. Estimates suggest that the Newly Industrialised Economies of Hong Kong, Singapore, Taiwan and Korea have done it in less than fifty years (seven per cent growth would result in a 15 fold increase in 40 years) and it looks as if a similar performance will be achieved by Thailand, Malaysia and perhaps Indonesia.

During that period remarkable transformations have taken place in all of these economies. Poverty levels have fallen dramatically, from as high as fifty per cent to twenty per cent or lower. Literacy and life expectancy have increased and infant mortality has fallen. Unemployment and underemployment have been sharply curtailed, often reaching levels that are

Published by Blackwell Publishers Ltd, 108 Cowley Road, Oxford OX4 1JF, UK and
350 Main Street, Malden, MA 02148, USA

lower than those observed in industrial countries. Inflation has been reduced and the structure of production has shifted from a high concentration of resources in agriculture and other primary production to more sophisticated industrial products and services. Savings and investment have risen from very low levels to rates which now far exceed those in industrial countries. There has also been a significant transfer of technology and managerial know-how to these countries either through licenses or international partnerships. Finally, they have developed an arsenal of macroeconomic, sector and microeconomic policy tools which have enabled them to maintain stable growth and increase economic efficiency.

How have these economies been able to record such a remarkable achievement? To answer this question this article reviews four aspects of their development experience which were critical in helping these Asian developing economies achieve and sustain rapid growth for such a prolonged period of time. The first and most important is the early development of an open trading system which promoted exports, rewarded efficient producers and produced high quality goods. This experience is reviewed in the next section. Subsequently, three other factors are analysed: a macroeconomic and sector policy framework which stressed stability and flexibility in response to external shocks, the development of human resources and the ability to mobilise domestic resources to rapidly increase the rate of investment.

Before embarking on this review it is important to set the stage for the take off to high growth in Asia by looking at the initial endowments of human and physical resources and of their geographic and political position as they began the surge to high growth. It is also important to note when that take-off occurred. To do this it will help if we separate these high performing economies into two groups, the four Newly Industrialised Economies (NIEs)—Hong Kong, Korea, Taiwan and Singapore—and the three high performing countries in Southeast Asia—Indonesia, Malaysia and Thailand. The NIEs began their growth spurt in the 1960s, a decade or so earlier than the three high performing countries in Southeast Asia. The other Asian countries are omitted from the discussion because they began the growth push much later and income levels are still relatively low. China began to liberalise in 1978 and started to grow rapidly in the early 1980s, while the Philippines, India and the other economies in South Asia and the transition economies in Indochina began to grow rapidly only a few years ago.

In the 1950s the NIEs were recovering from the devastation of World War II and, in the case of the Republic of Korea, the aftermath of its war with North Korea. All four of these countries were resource poor, Hong Kong and Singapore more obviously, since they had only limited amounts of land. But Korea and Taiwan were also resource poor in the sense that they had neither abundant raw materials nor a highly productive agricultural sector. However, despite these drawbacks, the agricultural sectors in these two countries were able to increase productivity sufficiently to generate an export surplus which provided valuable foreign exchange earnings. Land reform played a key factor in both countries. Foreign aid assistance from the United States, infrastructure spending on roads, railways and rural power which had already been well developed during the colonial period and policies which valued economic stability and did not tax agriculture excessively were also important in boosting productivity. Hong Kong and Singapore, on the other hand, had to rely on trading and entrepot functions to generate resources for development. All of the NIEs had to rely on their human resources much more than on physical endowments as a key input into the growth process. Luckily they were well endowed. Both Hong Kong and Singapore had experience in trading and finance from the past and Taiwan and Korea had strong educational systems which had been installed earlier. Literacy rates were considerably higher than in neighbouring countries and universal primary school attendance was enforced. These human resources would prove invaluable in implementing new industrial technologies and innovations in the coming decades.

In Southeast Asia, living standards in the 1950s were similarly low but these countries differed in two fundamental respects from the

NIEs. First, they had a rich agricultural endowment including ample rainfall, highly fertile soil and a warm climate, all of which enabled these countries to produce ample amounts of grains, tree crops and secondary food crops. This rich agricultural heritage, augmented by mineral resources in the case of Indonesia and Malaysia, helped these countries to produce export surpluses in the past. With the new technology of the green revolution they were able to increase their exportable surplus even more in the late 1960s and 1970s.

Finally, it should be noted that the years immediately following the end of the Korea War were still characterised by extensive protectionism, fixed exchange rates and limited capital flows between developed and developing countries which had characterised the interwar period. Most capital movements were through official agencies, although bank lending began to increase, particularly following the first oil shock in the early 1970s. Nevertheless, the scope for trade and capital flows was only beginning to open up as the Asian growth era commenced.

2. Trade, Export Promotion and Industrial Policy

All of the countries which were later to achieve rapid industrial growth and high export growth began the industrialisation process with a phase of import substitution. This involved protecting new and fragile industries with a tariff wall which made imported products expensive. The industries which were developed behind this trade barrier were often labour intensive and included the production and processing of primary products, manufacture of textiles and apparel and other simple consumer goods. Capital intensive and skill intensive capital goods and producers equipment were imported and often heavily taxed.

The NIEs began the transition to export promotion in the late 1950s and early 1960s, when they were able to shift the emphasis of their industrial strategy toward production for the export market. This process of moving into the production of labour intensive products was relatively easy in the entrepot centres of Hong Kong and Singapore which were not burdened with high tariffs. In Korea and Taiwan, where a system of tariffs had already been established to protect domestic industry, this transformation had to be accomplished by a series of tariff exemptions and/or duty drawbacks on imports used in the production of exported goods. This was necessary in order to arrive at border prices for imported goods and achieve international competitiveness in production for the export market. The government also assisted these new export industries with subsidised credit and other incentives in order to establish a 'level playing field' with exporters from other countries. In Korea and Japan the government held contests in which firms producing for export continued to be granted subsidies only if they were successful in penetrating export markets. The transition to the production of labour intensive products such as apparel, footwear, leather goods, furniture and toys was also assisted by producers in a few industrial countries, notably the United States. that were looking for offshore production locations for labour intensive manufacturing which was no longer competitive domestically due to high labour costs.

The output and exports of these labour intensive goods increased rapidly in the NIEs for the next decade or so and their economies flourished as a result. This growth in exports by the NIEs also coincided with a growing recognition that free trade could serve as an engine of growth for the world economy and the world trading system slowly became more liberal. Export promotion and more open trading environments also began to be recognised as a viable strategy for economic development and gradually replaced import substitution as the recommended strategy for developing countries to follow. As the industrialisation process deepened both South Korea and Taiwan built export processing zones where trade and industrial policy were more neutral in order to get around the complex system of tariffs which had been used previously to ensure the competitiveness of domestic producers. But tariffs on consumer goods remained high and the financial system was repressed, continuing to be used as a vehicle for providing finance to the industrial sector at subsidised rates of interest.

Meanwhile in Southeast Asia the process of transition from agriculture to industry began more slowly. Rather than moving directly into labour intensive industrial products, these countries used their rich agricultural base to build up exports of processed primary products. Thailand was a major agricultural exporter by the early 1970s. In addition to rice it began to export pineapple and canned fruits and fish while Malaysia developed tree crops like rubber and palm oil. Malaysia also developed its oil reserves.

By the early to mid 1970s the NIEs were approaching full employment and wages had begun to rise. They began to move into more higher value added products which required more skill and more capital such as electronics components, semiconductors and light manufacturing. This created a niche in labour intensive manufacturing into which Indonesia, Thailand and Malaysia moved in the late 1970s and in the 1980s. Initially government policies in these countries were not fully supportive of the export push into manufactured goods but they were successful nonetheless, particularly in processed food and textiles. Malaysia opened an export processing zone in Penang and this began to flourish in the 1980s after the second oil shock left oil and other primary product prices at a low ebb. In Indonesia it was not until 1983 that the export promotion drive began in earnest, sparked by the fall in petroleum prices, slow growth and rising unemployment. A wide ranging package of measures was introduced which liberalised trade and industrial policy and improved incentives for exports. Combined with a substantial devaluation these measures and subsequent liberalisation measures later in the decade helped to set Indonesia on a course of industrialisation which slowly reduced its dependence on oil and other primary products as foreign exchange earners.

As the industrialisation process continued in Southeast Asia it was assisted by investment from Japan and the NIEs. This was particularly true after the 1985 Plaza Accord (named after the hotel in New York where the negotiations took place) where the industrial countries agreed to exert efforts to reduce external imbalances in Japan and the United States by bidding up the price of the yen vis a vis the US dollar. As a result the yen, the Korean won and the new Taiwan dollar appreciated substantially, putting further pressure on these economies to move their labour intensive industries to offshore locations. In the next decade the flow of foreign direct investment from these countries into Indonesia, Malaysia and Thailand accelerated dramatically. At first the investments focused on labour intensive products but the emphasis has slowly shifted into more skill and capital intensive products as wages have risen and the labour force skill has improved in Southeast Asia.

The policy stance in Malaysia, Indonesia and Thailand was less intrusive than in the NIEs. Although there was protection of import substituting industries at the beginning of the industrialisation cycle which required special exemptions for export industries, there were fewer attempts to dictate the pattern of industrial development. and there was also greater resort to market forces. Learning from the experience of the NIEs these countries began to set up export processing zones and industrial estates. They also turned to foreign investors en masse for finance and new technology, particularly following the Plaza Accord.

Currency realignment made it difficult for Japan, Korea and Taiwan to compete internationally in labour intensive exports, including textiles, apparel, footwear, simple electronics and light manufacturing. Firms in these industries began to intensify their movements to offshore locations. Some of the Japanese investment in automobiles and heavy manufacturing moved to locations in industrial countries to avoid the pressure for voluntary export restraints which was coming from the United States. But other firms began to seek out joint partners in neighbouring countries in Asia. These were echoed in Taiwan and Korea, where labour intensive manufacturing was also ‘hollowing out’ as a result of shifting comparative advantage brought on by rising wages and currency realignment. This shift in interest toward Asia was reinforced by the low rates of return on investment in industrial countries during the long recession which began in 1990. As a result portfolio investment as well as foreign direct investment began to flow into the region as ‘emerging market’ investments

Table 2 GDP Growth Rate
(per cent per annum)

	Year						
Country/region	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*
OECD	3.6	2.5	0.8	1.7	0.9	2.8	2.1
NIEs[a]	9.6	6.6	7.3	7.9	5.9	6.6	7.5
Thailand	12.2	11.2	8.5	8.1	8.3	8.7	8.6
Malaysia	9.2	9.7	8.6	7.8	8.3	9.2	9.3
Indonesia	7.5	9.0	8.9	7.2	7.3	7.5	7.6

Note: (a) Includes Korea, Taiwan, Singapore and Hong Kong.

Sources: International Monetary Fund 1996, *World Economic Outlook* for OECD data and Asian Development Bank 1996, *Asian Development Outlook 1996 and 1997* for NIEs, Thailand and Malaysia.

became fashionable. This process of deepening and widening the flow of external capital into the rapidly growing Asian countries was reinforced by further deregulation of exchange rate and capital markets in the region along with better information about these markets and more complete financial disclosure.

As the process of industrialisation and export growth continued the rapidly growing NIEs and Southeast Asian economies were able to gain market share in a wide array of products imported by industrial countries. But they were also able to take advantage of growing demand in an array of dynamic product lines such as textiles, apparel, footwear, machinery and electronics—products for which the income elasticity of import demand by industrial countries was relatively high. Furthermore rapid growth in Asia was achieved even during periods of slow growth in industrial countries. For example, growth in the NIEs and in Southeast Asia was very little affected by the long recession of the early 1990s (see Table 2).

There are several reasons for this. First, Asian products maintained a competitive price advantage at all times and many exporters would sacrifice profit margins in the short run in order to get firmly established in a particular market. They might even continue to shave profit margins to increase market share. This was one of the primary marketing strategies of Japanese firms in the early days of their industrialisation and it was copies by other Asian firms and also by their subsidiaries in other Asian countries. Secondly, for the most part these economies tied their exchange rates to the US dollar which was depreciating over most of the period since 1985. Furthermore, Asian exporters have been successful in penetrating specific markets in industrial countries which are growing faster than the average. To some extent this has occurred naturally, as the composition of Asian exports has shifted from more traditional labour intensive products to higher value added goods over time, goods which have become more popular with importers in industrial countries. But it is has also been a conscious effort on the part of Asian producers to seek out rapidly growing markets. Income elasticities for these dynamic products are higher than those of lower value added products and the growth of exports has also been much higher. For example the United Nations (1996) estimates that between 1963 and 1993 there has been a 180 per cent growth in

Table 3 Share of Total Exports in Highly Dynamic Products[a], 1990
(per cent)

Singapore	83.4
Taiwan	83.8
Malaysia	60.7
Thailand	66.6
Indonesia	40.0
Hong Kong	43.8
Mexico	59.1
Brazil	33.7
Argentina	17.6
Chile	11.4

Note: (a) Includes products where UNCTAD has ascertained the income elasticity of import demand is high.

Source: UNCTAD (1996, p. 127).

high-tech imports by industrial countries and only a 12 per cent growth in the imports of low technology goods.

The NIEs were very successful in penetrating the import markets of these more dynamic products, particularly in the 1970s and relative to Southeast Asia, but the latter has closed the gap in recent years, aided by the rapid inflow of foreign direct investment. By 1990 both the NIEs and Southeast Asia had the bulk of their exports in these highly dynamic products (see Table 3).

3. Saving, Investment and Macroeconomic Stability

A rapid rate of export and industrial growth required a rapid expansion of output which had to be financed by an expansion of industrial capacity. This meant that a rapid increase in saving and investment was required. While saving rates were already quite high by the beginning of the industrialisation phase in Hong Kong and Taiwan, in other countries the rate of savings was low. However the saving rate increased as economic growth accelerated and it continued to rise even further as growth was maintained at a high rate (see Table 4). High and increasing rates of domestic saving allowed the investment rate to also increase rapidly without excessive reliance on foreign debt. The rapid pace of investment growth reinforced the industrialisation process as there was a voracious appetite for new plant and equipment in all of the rapidly growing Asian countries.

At the same time that growth and industrialisation required huge amounts of investment, rapid increase in economic growth itself played an instrumental role in helping to increase saving as the industrialisation process began to pick up steam. Thus the process of economic growth and saving and investment growth were mutually reinforcing during the early stages of industrialisation.

However it is less clear why saving tended to accelerate even further once growth rates had become relatively stable. Standard models of consumption behaviour such as the life cycle hypothesis and the permanent income hypothesis can not account completely for the rapid increase in saving nor can demographic changes or financial liberalisation which raised the real rate of interest. There may be institutional reasons for the rapid increase in saving in some countries. In Malaysia and Singapore provident schemes were compulsory and there were stiff taxes on luxury consumption and a lack of availability of finance to purchase consumer durables in many countries. High private savings rates were reinforced by prudent fiscal policy and economic development programs which directed government savings rates to profitable investment and infrastructure projects. There was also a degree of macroeconomic stability which reinforced the willingness to save. Furthermore, saving behaviour in these economies in the early years of the industrial boom may have been dominated by habit persistence, perhaps reinforced by frugality borne of experiences in the Second World War, the Korean War and disruptions in

Table 4 Growth in GDP and Saving
(per cent)

	Saving rate		*GDP growth rate*	
Country	*1971–80*	*1981–90*	*1971–80*	*1981–90*
Hong Kong	27.5	33.5	9.5	6.9
Korea	22.3	32.4	8.7	10.7
Singapore	30.0	42.6	9.0	6.3
Taiwan	32.3	45.4	9.7	7.8
Thailand	21.5	27.2	9.9	7.8
Malaysia	30.4	33.2	8.0	5.2
Indonesia	22.6	31.8	7.9	5.5

Source: Asian Development Bank, *Asian Development Outlook*, various years.

China in the late 1940s and early 1950s along with bequests motives, particularly intergenerational transfers.

While a clear explanation for rising saving behaviour in these rapidly growing Asian economies is still to be articulated, it is true that a virtuous cycle of saving has become self-reinforcing and has permitted a rapid rate of capital accumulation. Such behaviour has been observed in other rapidly growing economies and the converse has been found to be true in some slow-growing industrial economies. Savings were efficiently translated in most cases into productive investment in capital goods, factories and machinery. In some countries there was some augmentation of domestic saving by foreign borrowing (Korea) or by foreign direct investment (Indonesia, Malaysia, Thailand and Singapore). In Indonesia, Malaysia and Thailand the inflows of foreign capital accelerated only after industrialisation was in full swing.

The macroeconomic environment within which economic growth and resource mobilisation accelerated was an important component of the development process in the Asian economies. Through the use of prudent policies the rapidly growing Asian economies were able to hold inflation relatively well in check. Prices rose rapidly in a few countries such as Korea and Indonesia but these inflationary episodes were brought under control through appropriate monetary and fiscal policies. In the case of Korea macroeconomic policy featured a high degree of financial regulation and control, including subsidised credit and credit allocations, which promoted particular segments of the industrial sector. This system of controls and 'financial repression' which kept interest rates below equilibrium levels, allowed the government to provide subsidies and to finance budget deficits at low cost. While this led to excess spending and an inflationary build up in the late 1960s and again in the late 1970s; nevertheless the government was able to bring the situation under control and return to price stability within a short time. For several other countries such as Singapore and Taiwan, inflation has been virtually nonexistent. Generally, countries were able to control inflation by following prudent budget policies and macroeconomic imbalances were either controlled or avoided. When macroeconomic imbalances did develop there was still a commitment to channel resources into productive investment and a longer term pledge to maintain price stability.

4. Human Resource Development

To maintain high rates of growth in a dynamic and highly competitive international environment openness, export orientation and good resource mobilisation were not enough. Comparative advantage in the NIEs changed quickly as full employment was reached and wages rose. Combined with exchange rate adjustments following the Plaza Accord this required rapid structural changes in the industrial sector, with greater emphasis on skill and capital intensive products becoming required. This included the movement into heavy and chemical industry, heavy manufacturing, concentration on higher value and more complex electronic equipment and components including computer chips. Better educated workers were needed to implement this new technology. Some of the newly trained workers, particularly professional engineers, accountants, managers and educators came from a program which sent the best students overseas to study. Others came from a domestic education system which had begun to put greater stress on higher education. Initially, the NIEs benefited from the educational systems which had been installed before World War II and at the time of the industrial take off they had, with the possible exception of Singapore, a solid literacy base, universal primary education and a good secondary education base. In the ensuing years they put greater emphasis on technical and tertiary education.

There is also substantial evidence that the education systems in the NIEs delivered a good product (see Table 5). Recidivism was low, students worked long and hard, teachers were well paid and had a high standing in the community. There was a general belief that getting a good education was the primary way to improve one's status in life. This was partly a function of an egalitarian social system where sinecures and privilege were minimal and

Table 5 International Comparisons of Overall Achievement of Students in School
(ratio of standardised deviation to the international mean score)

	Achievement in school in comparative terms	
Country	*9–10 years old*	*13–15 years old*
International mean	0.0	0.0
OECD mean	+0.3	+0.35
Korea	+0.7	+0.9
Singapore	+0.2	+0.3
Taiwan	+0.4	+0.8
Indonesia	–0.1	na
Thailand	na	–0.2

Source: UNESCO, *Statistical Yearbook*, various years.

partly a reflection of cultural values which placed education in high social esteem.

In the fast growing economies of Southeast Asia education indicators were much less satisfactory at the beginning of their growth phase. Primary education was somewhat weaker than in the NIEs as large numbers of rural families would take their children out of school after only a few years as they were needed to work and to contribute to the family income. However the main shortages were at the secondary, technical and tertiary levels where enrolment rates were low and technical training weak (see Table 6). While not particularly constraining when these countries were concentrating on labour intensive manufacturing which required large amounts of unskilled and semiskilled labour, they have become more apparent in recent years as these countries have begun to move into higher value added products. To some extent the rapid influx of projects assisted by foreign direct investment have helped to address the manpower shortages in skilled and professional occupations. Foreign firms in partnership with local firms have supplied production, management and marketing expertise at the senior level and have at the same time developed programs to train their domestic counterparts. But there has also been a concerted effort to raise educational performance in all of the Southeast Asian countries and significant budget resources have been allocated for educational upgrading. There was also a rapid expansion of the labour force in many countries. As employment opportunities increased more women were drawn into the labour force and immigration from labour surplus economies accelerated to fill jobs which locals were not willing to fill. These added to the natural rate of increase of increase in the labour force which was still high, although falling as the demographic transition to a lower rate of population growth took hold.

Labour productivity increased rapidly in both the NIEs and in Southeast Asia both because labour force skills were rapidly upgraded and because they had more productive capital to work with as the investment rate kept going up. At the same time poverty and unemployment fell rapidly in both the NIEs and in Southeast Asia. Indonesia was a showcase of poverty reduction, being cited by the World Bank as the most successful country in the

Table 6 Gross Enrolment Rates
(per cent of age cohorts)

	Primary		*Secondary*		*Tertiary*	
Country	*1960*	*1992*	*1960*	*1992*	*1960*	*1992*
Korea	96	100	27	90	4	42
Singapore	100	100	32	70	6	22
Taiwan	97	100	29	88	4	21
Hong Kong	100	100	30	62[a]	4	20
Indonesia	60	100	6	43	1	10
Malaysia	74	93	17	60	1	8
Thailand	83	97	12	36	2	19

Note: (a) 1980.

Source: UNESCO, *Statistical Yearbook*, various years.

Table 7 Rural Poverty Headcount Ratio

Country	*Year*	*Ratio (per cent)*	*Year*	*Ratio (per cent)*	*Annual decline (per cent)*
Korea	1967	34	1988	7	7.5
Indonesia	1976	40	1987	16	3.5
Malaysia	1970–80	52	1980–88	38	1.5
Thailand	1975–76	32	1988	26	3.3

Source: Asian Development Bank 1995, *Escaping the Poverty Trap: Lessons from Asia*, p. 20.

world in reducing levels of poverty. Similar, if slightly less spectacular achievements, were achieved in other countries (see Table 7).

5. Allocative Efficiency, Competition, Productivity Growth and Government Policy

The combination of rapid investment growth and the skill upgrading and expansion of the labour force resulted in a rapid increase in total factor input growth in Asian developing economies. These inputs were further augmented by technical transfers from overseas either through joint ventures with foreign companies or through licensing arrangements. Both contributed to a rapid growth in income. Economic efficiency also improved as market forces provided powerful incentives to follow comparative advantage and to adopt best practice techniques. Reduced distortions through lower tariffs, fewer restrictions on entry into the industrial sector and further deregulation of the international trade and payments system made a further contribution to gains in efficiency. To a large extent improvements in economic efficiency were supported by government policies which allowed market forces to operate with wider scope.

There were, however, several areas where governments enacted legislation and supported polices which may have resulted in a loss in economic efficiency. The industrial policies of Korea alluded to earlier—of subsidising particular firms or sectors—is one area where it is unclear whether the policy was efficient and contributed to an improvement in welfare or whether resources were misallocated and not in line with existing comparative advantage. There was also significant interference with the market in financial sectors in these countries. Credit ceilings were enforced, credit was directed to favoured customers at preferential rates while being denied to others. Interest rates were held below market rates. Heavy taxes were also imposed on consumer durable goods and imports of consumer goods were either taxed at high rates or prohibited by an import ban. This system of taxing foreign consumption goods and subsidising domestic producers to export resulted in a narrow range of luxury products being imported and a general supply of products to the domestic market which was limited, high priced and sometimes of lower quality than goods produced for the international market. This combination of taxes and subsides served to subsidise foreign consumers while taxing domestic consumers. In this manner it further contributed to the suppression of domestic consumption in favour of saving and investment.

The rate of investment in all of the rapidly growing countries in East and Southeast was very high and much new technology was imported from overseas. Furthermore, since investment rates also increased over time it is fair to say that the growth in both the size and quality of the capital stock accelerated rapidly over time, even when depreciation was taken into account. Nevertheless, it came as a surprise to many observers that several researchers found that there was little if any increases in output resulting from total factor productivity, the increase in output which cannot be accounted for by increases in factor supplies alone (see Young 1992, for example). While the size of the contribution of total factor productivity with Asian countries been disputed by other scholars (World Bank 1993), there does not seem to be any question that it is much lower than the figure for OECD countries, where labour force and capital stock growth after depreciation are both quite low and most of the increase in output came from the total factor productivity component.

This finding has led some economists to predict that, in the absence of growth due to total factor productivity growth, output in the NIEs and Southeast Asia would begin to grow more slowly as diminishing returns to capital set in (Krugman 1994). But other researchers have shown that diminishing returns in these countries is setting in quite gradually and there is still much room for continued rapid growth as the NIEs and countries in Southeast Asia continue to import new technologies and maintain high investment levels. Furthermore these economies are also less encumbered by elaborate social welfare systems which are a drag on the budget and which result in a low level of public savings and potential 'crowding out' of private investment as government deficits remain high in many OECD countries. As these economies mature further and begin to compete against developed countries in cutting edge industries such as sophisticated electronics, telecommunications and heavy industry, they will be less able to borrow and adapt existing technology. Rather, they will have to undertake more research and development spending on their own. This is already beginning to happen and both Korea and Taiwan are making some progress in implementing new technology in selected product lines. For example Korea is quite competitive in some sophisticated chip products and is exporting automobiles to many foreign countries.

6. Challenges for the Future

The countries of East and Southeast Asia have been playing catch up to the industrial countries for several decades. During this process their living standards have increased dramatically, poverty has been reduced and the structure of production has shifted from emphasis on agriculture to industry and more recently to services. These countries have also increased their share of world trade in manufactured goods and made the transition from labour surplus to labour shortage and from rapid to slow population growth. During this process their living standards have increased dramatically.

As the process of economic development and industrial transformation continues two trends are likely. First, the trend toward a greater proportion of value added by the service sector will continue. Since gains in services productivity in the services sector have been much slower in the past and also because of the gradual onset of diminishing returns to capital as the size of the capital stock increases further, it will become more and more difficult to sustain very high rates of growth. This will be true even if productivity increases in manufacturing can be sustained for some time. It is therefore likely that the growth slowdown which has occurred in Japan will be more or less replicated in the NIEs and later on in Southeast Asia.

As each country has moved up the ladder of industrial development the tasks become more complex and challenging since a number of countries are standing on the higher rungs of the ladder. Consequently it becomes harder for each country and industry to find its own niche. Trade in similar products takes place and the firm that produces the highest quality and most reliable goods will be profitable while the unreliable, drab and poorly manufactured products will be failures.

As the process of development continues in line with comparative advantage higher wages and other labour related operating costs will require that the NIEs and Southeast Asian economies move to higher value added capital intensive and skill intensive products. This will require continual upgrading of skills and of the capital stock. It will be more difficult to accomplish the former since there can be long lead times between skill enhancement of the labour force and the ability of the economy to fully utilise these skills. This is particularly true in cases where there is a large imbalance between skill requirements and labour force capabilities and extensive retraining programs may be appropriate.

Furthermore there will be an inevitable decline in growth as these countries reach higher income levels, returns to investment decline and the scope for continued rapid industrial growth narrows. There will therefore be an even greater premium on economic efficiency and technological upgrading in the NIEs and in

Southeast Asia. Exit policies and imaginative government schemes to phase out or transfer sunset industries to offshore locations will be required as industrial shifts continue and some 'hollowing out' of the industrial sector occurs in all of these countries. There will be greater emphasis placed on product quality, management skill, economic efficiency, rapid technical transfer and research and development.

Higher standards of living will bring greater pressure to take care of environmental degradation which is bound to increases further along with the industrialisation process. Also the public is likely to demand a rising share of income be devoted to social expenditure, to providing safe and clean working environments and a modicum of employment security, either by government fiat or through the pressure from labour unions.

Despite these challenges the NIEs and Southeast Asian economies will have several definite advantages as they begin to overtake the industrial countries just ahead of them. First, they can benefit from the mistakes which their predecessors have made, particularly by carefully managing the growth of the social welfare system. Furthermore, these countries have the advantage of having a young capital stock and of having developed in the age of high technology and an open trading environment. They are used to the pressure of constant upgrading of the capital stock and are adapting quickly to the need for continual new domestic investment in research and development. Since their saving and investment rates are expected to remain high, they should have sufficient scope to make this transformation effectively and efficiently.

February 1997

References

Krugman, P. 1994, 'The myth of Asia's miracle', *Foreign Affairs*, vol. 73, no. 6, pp. 62–78.

Maddison, A. 1991, *Dynamic Forces in Capitalist Development*, Oxford University Press, Oxford.

United Nations Conference on Trade and Development 1996, *Trade and Development Report, 1996*, United Nations, New York & Geneva.

World Bank 1993, *The East Asian Miracle: Economic Growth and Public Policy*, Oxford University Press, Oxford.

Young, A. 1992, 'A tale of two cities: Factor accumulation and technical change in Hong Kong and Singapore', in *NBER Macroeconomics Annual 1992*, eds O. J. Blanchard & S. Fisher, MIT Press, Cambridge, Massachusetts.