Is the Asian Economic Miracle Over?

By Tatsuya Ishikawa
Economic Research Dept.

Introduction

The currency and financial crises in Asia are entering a new phase. While Thailand, Korea, and Indonesia have temporarily averted a liquidity crisis due to IMF-led international bailouts, they must now make concrete progress in economic and financial reconstruction. The recent currency crisis has brought about a thorough overhaul of what were in effect dollar-peg exchange rate policies. At the same time, it has led to a fundamental reevaluation of Asia's growth potential over the longer term. This paper discusses these issues and assesses Asia's future prospects.

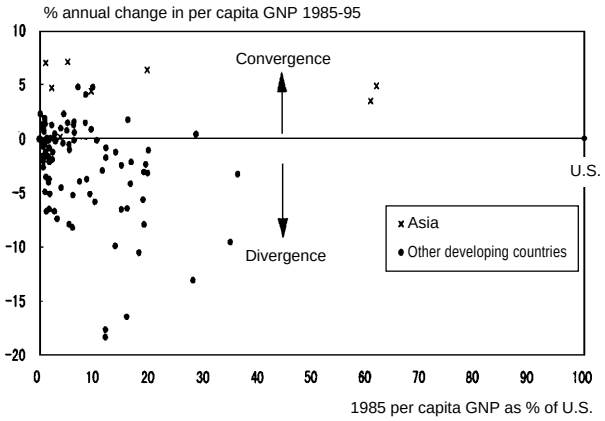
1. Perspectives Prior to the Currency Crisis

(1) Asia's Success and New Economic Growth

Earlier praise for the economic success of Asian countries is typified by the World Bank's 1993 report entitled *The East Asian Miracle*. The report featured an empirical analysis applying the latest economic growth theories to explain why Asia had attained economic success. Simply put, the main factor behind the success is attributed to public policy choices. Supposedly, other developing countries can also enjoy Asia's success by making intelligent public policy choices.

This analysis was made possible by the emergence of a new economic growth theory. Traditional growth theory, which fits the case of industrialized countries, states that because poorer countries experience higher economic growth rates, there tends to be convergence across economies. However, the actual relationship between industrialized nations and developing nations is one of the rich getting richer and poor getting poorer. Asia was the exception that proved the rule; if developing nations have the opportunity and potential to catch up, why are there winners and losers?

Figure 1 Per Capita GNP Relative to U.S.



Source: World Bank, *World Development Report 1997.*

Conventional growth theory has shown that long-term economic growth rates are ultimately constrained by population growth and the rate of technological progress. Technology is treated as an exogenous factor.

However, technological progress occurs within the dynamic process of economic development. What is important in a nation's economic development is not the ultimate result so much as the process. This view led to the emergence of a new growth theory (endogenous growth theory) from the late 1980s to early 1990s. The revision of economic theory was triggered in large part by Asia's economic success.

Professor Robert Barro created a logically coherent framework that explains the catch-up process of developing economies and is compatible with traditional growth theory.

Since development goals are influenced by initial conditions, developing economies may at first have set their attainable goals below those of industrialized economies.[1] However, the important point is whether subsequent public policies raise these goals higher or shatter them. If low-income countries raise their goals, it would increase the room for growth. Thus the growth rate would rise, accelerating the catch-up process. On the other hand, if goals are lowered, growth slows down, enlarging the gap with leading economies.

While income convergence appears to reflect a catch-up process with the rest of the world, it is actually a process of approaching a country's own point of maturity. Unless targeted levels are raised, income differentials with the rest of the world will not create room for growth.

This theoretical model should be able to explain the differences in economic development between Asia and elsewhere.

(2) The World Bank Report

The World Bank evaluates the role of public policy in Asia's economic growth process as follows.

While the systems and actual economic policies are too diverse to construct a single model, they share an industrialization process based not on import substitution but on export orientation.

The basic mechanisms enabling development are: (1) a virtuous cycle of high investment rate, high economic growth rate, and high savings rate, (2) high quality of labor and rising labor participation rate, and (3) rising production efficiency through the introduction of foreign capital and technology.

Export oriented policies were accompanied by deregulatory measures to open the domestic market to purchase raw materials. This encouraged improvements in efficiency through competition. In addition, social and human capital were accumulated as a result of the government's priority on infrastructure and secondary education.

Fiscal balances were limited to surpluses or small deficits. Because the government did not print massive amounts of money to service national debt, inflation did not become problematic. Without a severe inflation to cloud the business outlook, companies could invest with confidence. Price stability, along with policies to promote savings and rising education levels, supported high household savings rates.

Exchange rates were reduced as needed to maintain international competitiveness so that overvaluations were not sustained over long periods. As a result, foreign deficits and debt were kept relatively low. This reduced the investment risk for foreign investors, and foreign capital inflows augmented domestic capital shortages in satisfying the strong domestic investment demand.

The above public policy choices served to tap the private sector's inherent strength and achieve high growth rates and economic development.

The sustained vigor of the Asian economies into the 1990s raised optimism that rapid growth would continue indefinitely.

(3) Krugman's Argument

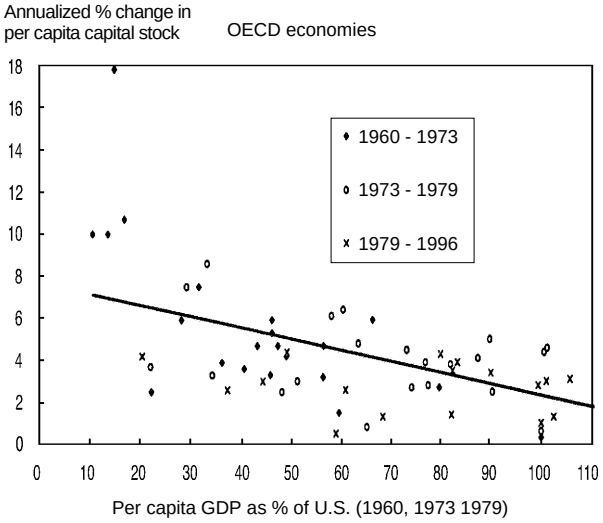
At the height of Asia's growth and optimism, Paul Krugman wrote a controversial essay in 1994 entitled "The Myth of the Asian Miracle," in which he questioned the sustainability of Asia's growth.

The main points of his essay were: (1) Asia's high growth rate thus far was due to rising capital and labor inputs, which are characteristic of rapid development, rather than to higher total factor productivity (TFP), (2) economic growth based on rising factor inputs eventually produces diminishing returns and cannot be sustained, and (3) productivity increases are indispensable for sustained long-term growth.

The second and third points are fundamental economic principles and thus leave no room for debate. Stated differently, once an economy reaches maturity, per capita real GDP growth rate depends on the rate of increase in productivity. This can be expressed in the following equation:

Per capita real GDP growth rate = Rate of increase in TFP + Capital share x Rate of increase in per capita capital stock

Figure 2 Economic Maturity and Growth Rate of Per Capita Capital Stock



Source: OECD, *Economic Outlook 61* (June 1997).

In a young economy with goals that are far away, returns on capital are high, as is the rate of increase in per capita capital stock. However, as the economy matures, returns on capital decline, and growth in per capita capital stock approaches zero. What supports economic growth at this point is rising productivity.

If Asia's economic development thus far has been based on productivity increases, we can expect to see corresponding productivity increases and growth rates in the future. On the other hand, if development has been based on rising factor inputs instead of higher productivity, high growth rates cannot be expected in the future.

The evaluation of productivity increases, which lies at the heart of the argument, is an empirical problem. Both Barro and the World Bank credit public policy choices as having increased productivity. In addition, Krugman states that Asia can achieve higher growth rates than the

West over at least the next decade. But he also compares the growth process based on higher capital and labor inputs to that of the former Soviet economy, for which he has been widely criticized by empirical researchers in this area.The ensuing technical debate on how to measure productivity growth has overshadowed the original intent of warning against excessive optimism.

Krugman's argument addressed Asia's growth potential over the long term, and not the possibility of an imminent slowdown. Nonetheless, his view attracted much attention when the baht devaluation in July 1997 triggered currency and economic turmoil throughout the region. However, the causes of Asia's currency crisis came from elsewhere.

2. The Currency Crisis and Future Structural Adjustments

When the Mexican currency crisis occurred in late 1994, Asian currencies also fell temporarily, but recovered quickly.

Although many Asian economies held current deficits as Mexico did, the consensus was that: (1) savings rates were high, and the current deficit was due to even higher investment rates, (2) investment increased production capacity and hence the future capacity to repay debt, (3) a large proportion of foreign capital inflows went into direct investment, which was stable and entailed a low risk of sudden capital movements, and (4) since foreign reserves were relatively abundant, the risk of liquidity crisis was low.

However, the currency crisis which befell Asia a scant two and a half years later was far more wide-ranging and serious. In fact, from late 1994 to mid 1997, Asia underwent decisive change. First, real effective exchange rates rose; second, current deficits grew while foreign debt surged; and third, bubble economies collapsed and financial systems became destabilized. It was no longer the case that external deficits and foreign debt could be suppressed by staying internationally competitive.

(1) Dollar-Pegged and Rising Real Effective Exchange Rates

Most Asian economies have maintained exchange rate policies that effectively pegged their currencies to the U.S. dollar. On the other hand, inflation rates were higher than in the U.S. Thus the real exchange rate (nominal dollar rate x U.S. price ÷ domestic price) had risen.

Moreover, the real effective rate, a weighted average against the currencies of trading partners, was rising even higher. This was greatly influenced by the yen's decline against the dollar from April 1995 to May 1997. In other words, when the nominal yen rate of dollar-pegged Asian currencies rose, the high inflation rates vis a vis Japan caused real exchange rates to rise substantially.

The rise in real effective exchange rates reduced international competitiveness and were the primary cause behind rising current account deficits.

(2) Current Account Deficits and Sharply Rising Foreign Loans

Table 1 Breakdown of Current Account Deficits (1995)

	Current account	Capital transfer	Direct investment	Portfolio investment	Other investment	Errors and omissions	Foreign reserves decrease
Thailand	▲ 136	0 (0.0)	12 (8.7)	41 (30.1)	166 (122.8)	▲ 12 (▲ 8.8)	▲ 72 (▲ 52.8)
Malaysia	▲ 74	▲ 1 (▲ 1.4)	41 (56.1)	▲ 4 (▲ 6.0)	37 (50.7)	▲ 17 (▲ 23.4)	18 (24.0)
Philippines	▲ 20	0 (0.0)	11 (54.5)	12 (60.1)	30 (153.5)	▲ 21 (▲ 105.8)	▲ 12 (▲ 62.4)
Indonesia	▲ 70	0 (0.0)	37 (53.3)	41 (58.4)	25 (36.2)	▲ 18 (▲ 25.5)	▲ 16 (▲ 22.4)
Korea	▲ 83	▲ 5 (▲ 5.9)	▲ 18 (▲ 21.2)	108 (131.2)	81 (98.9)	▲ 14 (▲ 17.5)	▲ 70 (▲ 85.3)

Notes: (1) Top figure shows amount in $ billion; bottom figure expresses amount as % of current account deficit
(2) Other investment includes loans, foreign currency deposits of non-residents, etc.
(3) Negative direct investment indicates that investment abroad exceeds investment domestically.
(4) Negative value for foreign reserves decrease indicates accumulation.
Source: IMF, *IFS*.

Current account deficits entail the need for corresponding capital inflows. Due partly to new offshore markets established in the 1990s, there was a sharp increase in short-term loans from foreign banks. The three economies confronting serious currency and financial crises—Korea, Indonesia, and Thailand — have in common a structure in which they must offset current account deficits with foreign capital inflows, primarily foreign loans. In addition, Korea has also had to rely on foreign financing to offset a sustained net outflow in direct investment.

(3) Bubble Collapse and Financial System Instability

The inflow of foreign funds caused by the dollar-linkage exchange rate policy the inflow of foreign funds caused excess liquidity, and a factor behind the financial bubble.

Table 2 Thailand's Financial Deepening and Current Deficit

	1985	1990	1995
M2 / Nominal GDP	0.56	0.70	0.79
(1) % change in M2 money supply (from 5 years ago)	18.7	20.8	16.7
(2) % change in money multiplier (from 5 years ago)	10.1	4.3	-0.1
(3) % change in base money (from 5 years ago)	8.6	16.5	16.8
(4) % change in foreign reserves (from 5 years ago)	6.8	43.8	21.8
(5) Current account / nominal GDP	-4.0	-8.5	-8.1
(6) Capital account / nominal GDP	4.2	12.3	12.4
Direct investment / nominal GDP	0.4	2.7	0.7
Portfolio investment / nominal GDP	2.3	0.0	2.4
Other investment / nominal GDP	1.2	8.0	9.9
Errors & omissions / nominal GDP	0.3	1.7	-0.7
(7) Foreign reserves increase / nominal GDP	0.3	3.8	4.3

Notes: Growth rates are annual; GDP ratios are expressed as %.
(1) = (2) + (3) , (5) + (6) = (7)
Other investment includes foreign loans, deposits of non-residents, etc.
Source: IMF, *IFS.*

For example, Thailand's M2 money supply growth has exceeded 20 percent annually over the past 15 years. If we break this down into a money multiplier growth rate and base money growth rate, we see that from 1985-90 and again from 1990-95, the growth in the money supply base was predominant. The fact that foreign reserves, the source of the money supply base, grew 43.8 percent and 21.8 percent respectively can be attributed to capital inflows exceeding the current account deficit. Most of this inflow consisted of deposits by non-residents and foreign loans by residents in response to the spread between domestic and foreign interest rates and stable dollar rate.

This obviously was not the only direct cause of the bubble. But the strong desire among emerging markets for rapid development tends to inflate expectations, and the small scale of financial markets makes them susceptible to changes in foreign capital flows. Thus if foreign transactions and interest rates are liberalized before financial institutions and regulatory agencies are ready, distortions will occur in fund flows and asset price formation, setting the stage for an asset bubble. Since rapid economic and financial development tends to increase the money supply sharply, monetary authorities have difficulty detecting excess liquidity.

As long as exchange rates were fixed to the dollar, Asia was extremely attractive to foreign investors. However, as the boom continued, the real estate sector developed an became excess supply, and a credit tightening triggered a sharp drop in land prices. As leveraged real estate investments failed, financial institutions saw their bad loans accumulate. When the distortions caused by the dollar linkage were could no longer support the exchange rates, the outflow of foreign capital accelerated to minimize currency losses, and the financial system became unstable.
Such were the conditions leading to the currency crisis. Thailand's ratio of current-deficit-to-

GDP was particularly high, while direct investment accounted for a smaller portion of foreign capital inflows than in other countries. Repeated interventions to prop up the dollar exchange rate practically depleted foreign currency reserves just prior to the devaluation. Ultimately, the bubble collapsed and the dollar-linked exchange rate policy had failed as well.

Compared to the end of 1994, the current account deficit and foreign debt were expanding at an unsustainable pace. Investment was flowing into sectors such as real estate speculation, which did not lead to productivity improvement. Short-term loans comprised a growing proportion of the foreign fund inflow. Foreign reserves, which should have been adequate, plunged just prior to the currency crisis.

Besides Thailand, other Asian economies with current account deficits—Indonesia, Philippines, Malaysia, and Korea—also saw their foreign debt expand due to high real currency rates, and met with financial system instability due to collapsed bubbles. These conditions indicate that the currency crisis was inevitable.

(4) Issues for Economic and Financial Reconstruction

The declining real effective exchange rates of Asian currencies since last year have already fallen below pre-1990 levels. While this has cause international price competitiveness to recover, it has also increased debt burdens on a home currency basis. To restore international confidence, foreign debt must be kept within sustainable levels. Since foreign demand may not improve quickly enough, expenditures need to be curbed in both public and private sectors. If economic recovery must depend on foreign demand, growth will drop well below the potential growth rate. Because weak currencies raise import prices, inflation will also increase, making living conditions tough at first.

Another issue is to return stability to the financial system. Financial institutions will need to acquire a sound footing, while regulatory agencies must establish a framework for full disclosure and transparency of transactions. Unless financial institutions can fully exercise their intermediary functions, the growth sectors most in need will not receive adequate financing. Reconstruction of the financial sector will take time.

In Mexico's case, the economy successfully recovered just one year after its currency crisis. One reason was that the banking sector had managed to avert significant damage. In addition, the rapid recovery was made possible led by foreign demand: the U.S. ,which accounts for an 80 percent export share, saw strong growth in 1995 and 1996. Since most of Asia's exports are intra-regional and to Japan, both of which are ailing, foreign demand is not likely to recover soon.

Thailand, Indonesia, and Korea will need several years to reconstruct their economies and financial systems, and during this time their economic growth rates will be far below past levels.

However, declining productivity did not play a role in Asia's currency crisis, nor is it responsible for the anticipated economic slowdown.

Below we consider how strong Asia's economies will become once the economic and financial reconstruction has been completed.

3. Reconsidering Asia's Long-term Growth Potential

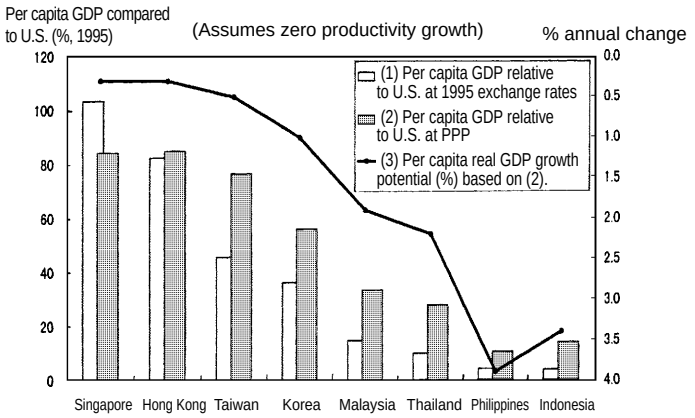
The basic factors that have supported Asia's economic development thus far — including high savings rates and high quality labor — remain unchanged by recent events. In addition, public policy has not been misguided on the whole, and problems have been corrected with exchange rate policies and keeping foreign debt under control. In other words, the basic structure supporting the smooth input of capital and labor remains in place.

On the other hand, there are several potential concerns should the structural adjustments involved in reconstruction require time. If infrastructure investment projects are delayed or canceled, social capital development would fall behind, creating supply bottlenecks in the future. Cutbacks in public spending on education and longer periods of unemployment could cause human capital formation to stagnate. Reduced inflows of foreign direct investment could slow down the pace of technology transfer.

(1) Per Capita Real GDP Growth Rates — Differences Between NIEs 4 and ASEAN 4

As explained earlier, the debate over Asia's economic growth is sustainable focuses on empirical confirmation of productivity growth. However, the debate sidesteps the issue of whether there is room for growth in per capita capital stock, which drives growth until economies mature. In the future, sustained growth will not only depend on rising productivity, but correspond to increases in per capita capital stock as long as there is room to catch up. Of course, for economies that have largely caught up, this means that even if productivity rises as in the past, growth will decelerate due to the economy's maturation.

Figure 3 Catch-Up Status and Growth Potential Over the Next 15 Years



Income levels among the NIEs 4 have approached near the U.S. level. On the other hand, the ASEAN 4 still have considerable room to catch up. Based on the present levels of economic development, we can calculate the room for growth in per capita real GDP assuming that productivity remains unchanged. The ASEAN 4 still have considerable potential for growth.

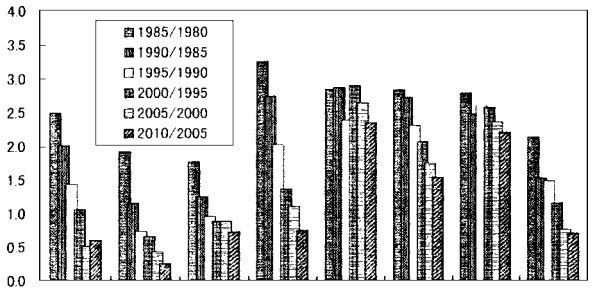
Moreover, we must remember that productivity increases and technological advances do not occur in a vacuum. Productivity will rise if public policies are carefully chosen and promoted with increasing rigor. As long as the inflow of foreign direct investment does not fall to zero, productivity can be improved through transfers of superior foreign technologies and systems.

(2) Labor Force and Real GDP

In looking at Asia's future, there is strong interest not only in per capita but overall real GDP growth rates. Excluding the effect of unemployment rates, which have short-term fluctuations corresponding to economic conditions, the relationship between the two can be expressed as follows:

Real GDP growth rate = Per capita real GDP growth rate
+ Rate of change in labor force participation rate
+ Population growth rate

Figure 4 Growth Rate of 15 - 64 Age Population



Note: Figures for 1995 and beyond are median estimates.
Source: UN, *World Population Forecast 1994;* others.

Excluding Malaysia and the Philippines, growth rates for total population and working age population (age 15-64) have been gradually declining among Asian countries. Population projections by the U.N. indicate that these trends will continue in the future. However, aging will not occur as rapidly as in the industrialized countries.

On the other hand, labor force populations have grown significantly over the past 15 years. Since the labor force population is defined as total population multiplied by the labor participation rate, it is apparent that the labor force growth has been supported not by population growth but by rising labor participation rates. However, these rates have leveled off in recent years. In Korea, Hong Kong and Singapore, labor participation rates (the proportion of age 15 and older

population that is working) are in the 60 percent range, comparable to Japan. As the growth rate of the 15 to 64 population segment declines in these countries, their rates of labor force growth and growth in employed workers will fall to near zero. Growth rates in the other countries will decline gradually as well.

Table 3 Catch-Up Status and 15-Year Growth Potential of East Asian Economies (Mechanical Calculation)

	Catch-up status		Per capita growth rate		Labor force	Real GDP growth rate	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Singapore	103.5	84.4	0.3	2.3	0.8	1.1	3.1
Hong Kong	82.6	85.1	0.3	2.3	0.5	0.7	2.7
Taiwan	45.9	76.8	0.5	2.5	0.9	1.3	3.3
Korea	36.4	56.2	1.0	3.0	0.7	1.7	3.7
Malaysia	14.9	33.4	1.9	3.9	2.6	4.5	6.5
Thailand	10.0	27.9	2.2	4.2	1.1	3.3	5.3
Philippines	4.2	10.6	3.9	5.9	2.4	6.3	8.3
Indonesia	3.8	14.1	3.4	5.4	1.8	5.2	7.2

Notes: (1) Per capita GDP compared to U.S. (%) using 1995 exchange rates.
(2) Per capita GDP compared to U.S. (%) using 1995 PPP rates.
(3) Per capita growth potential (% annualized) based on (2); assumes 0% U.S. growth.
(4) Per capita growth potential (% annualized) based on (2); assumes 2% U.S. growth.
(5) Annual growth rate (%) of labor force (15-64 age population) from 1995 to 2010.
(6) Growth potential (%) of real GDP (assumes 0% U.S. growth) = (3) + (5)
(7) Growth potential (%) of real GDP (assumes 2% U.S. growth) = (4) + (5)

Considering these factors, per capita real GDP growth rates in Asia will inevitably decline over the long term, but still outperform Japan and the West, where economies are maturing and populations aging.

Within Asia, the relatively developed NIEs 4 economies will have distinctly lower growth rates than the ASEAN 4, who have farther to catch up and are younger in population.

Conclusion

Having room for growth does not guarantee that growth will occur. If present efforts at economic and financial reconstruction fail, the potential for growth will evaporate, and supply-side fundamentals may deteriorate. Yet from a long-term perspective, the pessimism that presently looms over Asia seems excessive.

Had the Asian miracle never occurred, there would be no need to even be pessimistic, and despair would be unheard of. On the other hand, if the miracle is that everybody gets a chance, but the forerunner of success most rare, the miracle is not over yet.

When considering Japan's relationship with Asia, we must recognize that a full-fledged aging society is inevitable in Japan's near future. There is little time left to prepare. Whether Japan

expands or contracts its investment in Asia, it needs to come to grips with this reality.

Note

1. Attainable goals refer to a "steady state" in economics. Initial economic conditions refer to parameters such as per capita levels of physical and human capital, savings rates, technology level, production functions and utility functions. If countries have different steady states, they also have different paths and growth rates. By controlling the factors determining the steady state and adjusting the transition from initial values to the steady state, the catching-up process can be obtained wherein the larger the deviation from the steady state, the higher the growth rate. This approach is called conditional convergence.
   In the neighborhood of the steady state, the catch-up speed (β) is derived from the theory as follows:

$$\beta = (1 - \alpha) \times (x + n + \delta)$$

   where α = capital allocation ratio, x = rate of technological progress, n = population growth rate, and δ = depreciation rate of capital. When actually measured, the speed of convergence was found to be unexpectedly slow at approximately 0.02 (2% per year).