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Long-Run Aspects of the Asian Debt Crisis*

By Thomas Ziesemer**

Summary

In this paper we discuss long-run aspects of the Asian debt crisis. The first question is whether or not the Asian debt crisis could have been predicted on the basis of growth theoretic consideration. The second question is what the similarities with earlier debt crises are. It is assumed that the slow down of growth in Japan is permanent and the consequences of this assumption for the crisis countries are investigated. The consequences of a permanent real devaluation for the trade pattern of some countries are considered. We answer the questions whether or not the Asian miracle is over, whether or not Asia’s position as the growth pole of the world is endangered by the crisis, whether Japan or China will be Asia’s financial centre in the future. Consequences for the IMF are discussed together with the Tobin tax and capital controls.

1. Introduction

In this paper we will discuss long-run aspects of the Asian debt crisis: The origins of the crisis, long-run effects and institutional and policy changes.1 The first question addressed in section 2 is whether or not the Asian debt crisis could have been predicted on the basis of growth theoretic consideration. The second question, discussed in section 3, is what the similarities are with earlier debt crises. Section 4 assumes that the slow down of growth in Japan is permanent and investigates the consequences of this assumption for the crisis countries. Section 5 considers possible consequences of this for the trade pattern of some countries. Section 6 asks whether or not the Asian miracle is over. Section 7 asks the question of whether or not Asia’s position as the growth pole of the world is endangered by the crisis. Whether Japan or China will be Asia’s financial centre is discussed in section 8. Consequences for the IMF are discussed in section 9. Section 10 comments on the Tobin tax and capital controls, concerning points ignored in the public debate so far. Section 11 summarises and gives some further long-run perspectives.

2. From Asian development policy success to the debt crises

Recent empirical literature2 has clearly stated that Asia’s success is due to increased inputs and not to an exceptional enhancement of total factor productivity. Employment participation has increased for men and women. People have received more education and the investment/GDP ratios have been outstandingly high. This is summarised in scheme 1 and table 1 below. There is a clear ranking in the orders of magnitude in the growth rates of table 1: Obviously, the growth rate of the capital stock is the largest of all being in the order of magnitude of 10 %. The second largest is that of manufacturing employment being in the order of magnitude of 5-9 %. The third in ranking is human capital growth in the order of magnitude 2-5 %. Finally, total factor productivity growth ranks lowest being in the order of magnitude 0-2 %. Another result of high capital accumulation, besides high growth, is also large debt.

The interpretation of the data from the point of growth theory is also clear. The long-run growth rate of a country is determined by its total factor productivity growth rate, as neoclassical growth theory would postulate. Total factor productivity is growing no faster than in OECD countries, and in the long run growth rates of the Asian countries considered in the tables must come down to those of the OECD countries. A slow down of growth towards its natural rate (to be corrected for income and price elasticity of export demand and the growth of customer countries)3 is a natural prediction — Krugman made it.4

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* I am grateful to Paitoon Kraipornsak and Markus Diehl for useful comments and to Arno Millitz for competent research assistance.

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1 For other aspects see Ziesemer (1999).

2 See Young (1994); Collins and Bosworth (1996).


4 See Krugman (1997) and references given there to his earlier papers on the topic under consideration.
An obvious problem with such a prediction is that firms need to adjust their very high expectations towards growth rates of 1-2% and they need to know when it will come about; a question that can hardly be answered. In 1996, Korea, Indonesia and Thailand had lower growth rates than the years before. The crucial question is whether or not this is the adjustment to a new long-run steady state value determined by total factor productivity growth. Alternatively, it could be a transitory growth reduction due to the business cycle and an increasing dollar, which leads to an appreciation of those currencies which are tied to the dollar — the baht, ringgit, peso, won etc. In figure 1 the slopes of the bent curves are the growth rates if there is no impact of the dollar value but rather if the views from growth theory apply. The straight lines indicate steady state growth paths. A transition from a lower growth path to a higher one, initiated by the policies indicated in column 2 of scheme, would lead to such a transitional path with first increasing and later decreasing growth rates. But they are permanently higher in the higher steady state if human capital formation induces TFP growth. A similar impression can be gained from table 2, where the average growth rates for three periods are presented and from figure 2 where the actual growth of six countries (1950-1990) is plotted.

In terms of the upper more abstract graph derived from theory, one could hypothesise that the four richer countries are in the more advanced phase of the transition with decreasing growth rates whereas the five poorer countries are in the less advanced phase of increasing growth rates. Countries from both groups are severely affected by the debt crisis. Thus being in one of these phases *per se* does not make a country more prone to being affected by the crisis. However, what should also be considered is that international investors may have recognised the phase of increasing and high growth rates of all these countries but have not recognised to the same extent that some of these countries are already in the phase of decreasing growth rates. Such a lag in recognising changes in growth rate developments may have contributed to too much optimism about the bubbles at the stock exchanges of all these countries which later led to some plunge in all of these countries.

With the above reasoning, being mainly based on closed economy growth considerations, one has to add the trade impact on growth: the slow down of growth in Japan will probably slow down the growth of the whole Asian bandwagon because Asian countries can export less to Japan. We come back to this point in section 4.

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**Table 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Korea</th>
<th>Indonesia</th>
<th>Thailand</th>
<th>Malaysia</th>
<th>Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFPGR(^1)</td>
<td>1.4</td>
<td>0</td>
<td>1.9</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>KGR(^2)</td>
<td>12.6</td>
<td>8.3</td>
<td>10.6</td>
<td>10</td>
<td>12.2</td>
</tr>
<tr>
<td>HGR(^3)</td>
<td>3.3</td>
<td>4.5</td>
<td>2.3</td>
<td>3.3</td>
<td>2.8</td>
</tr>
<tr>
<td>LGR(^4)</td>
<td>5.5</td>
<td>8.9(^5)</td>
<td>5.1</td>
<td>8.2(^5)</td>
<td>5.6</td>
</tr>
</tbody>
</table>

\(^2\) Capital stock growth-rate, average 1960-94; source: Collins and Bosworth 1996.  
\(^3\) Average years of schooling, growth rate 1960-94; source: Collins and Bosworth 1996.  
\(^4\) Manufacturing employment annual growth 1970-90; source: Young 1994 unless otherwise indicated.  
\(^5\) UNIDO Industrial Statistics data base.
The growth of some Asian economies has been accompanied by industry policy and not left to the laissez faire captured by standard growth theory. In 1980 an internal struggle about the industry policy led to negative growth rates. It is well known that the 'tigers' have gained their world market shares at the cost of other developing countries, not the developed countries. Moreover, they are taking over industries from each other. One often mentioned fact is that this may have led to over-capacity. What was coordinated at the national level in earlier years was not coordinated internationally in more recent years. Also national co-ordination did not work any more in Korea. Again it is an interesting question whether or not international investors have been alert enough to see this type of a problem.

Table 2

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>9.2</td>
<td>7.5</td>
<td>5</td>
<td>23 900</td>
</tr>
<tr>
<td>Singapore</td>
<td>9.4</td>
<td>7.2</td>
<td>8.3</td>
<td>22 600</td>
</tr>
<tr>
<td>Taiwan</td>
<td>10.2</td>
<td>8.1</td>
<td>6.3</td>
<td>13 200</td>
</tr>
<tr>
<td>Korea</td>
<td>9.3</td>
<td>8</td>
<td>7.7</td>
<td>11 900</td>
</tr>
<tr>
<td>Malaysia</td>
<td>8</td>
<td>5.7</td>
<td>8.8</td>
<td>10 400</td>
</tr>
<tr>
<td>Thailand</td>
<td>7.3</td>
<td>7.2</td>
<td>8.6</td>
<td>8 000</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7.8</td>
<td>5.7</td>
<td>7.2</td>
<td>3 800</td>
</tr>
<tr>
<td>China</td>
<td>7.5</td>
<td>9.3</td>
<td>10.1</td>
<td>3 100</td>
</tr>
<tr>
<td>Philippines</td>
<td>6.1</td>
<td>1.8</td>
<td>2.8</td>
<td>2 600</td>
</tr>
</tbody>
</table>

Note: Kawai (1998) in his table 1 has larger number for some countries and lower ones for others for 1996. The deviations are larger than one would expect only from having different years. In particular China is poorer than the Philippines according to his values. Sources: IMF; ING Barings; national statistics; The Economist.
worldwide recession, which is one of the causes but rather the slow down of Japanese growth, which reduces the exports of the crisis countries. This slow down works jointly with a devaluation of the yuan/renminbi and the revaluation of the dollar to which the currencies of the crisis countries are tied. Internal forces also play a part. What is needed is a growth model where export demand plays a significant role. This will be considered in the next section.

4. Are exports correlated with Japanese growth rates and what are the growth effects of the Japanese slow down?

Above we have argued that the growth slow down of Japan may reduce the growth of exports of the crisis coun-

8 See Ziesemer (1998) for a broad overview of the controversy on internal versus external explanations of debt crises.
tries. In table 3 we show that Japan is indeed one of the three major trading partners of all crisis countries. The table clearly shows that in particular Indonesian exports are affected by the growth slow down of Japan. But Japan has a considerable share in the crisis countries’ exports throughout. Therefore it is rather obvious that the slow down of Japanese growth will slow down the export growth of the crisis countries. What are the other long-run consequences of this slow down of Japanese growth?

When exports slow down, the long-run consequences are the following.9

i) An economy which imports its capital goods, or at least part of them, will import and invest less when exports fall which results in a lower growth rate of the capital-labour ratio.

ii) The lower growth rate of the capital-labour ratio implies a lower growth rate of the GDP per capita and of wages expressed in terms of consumer goods.

iii) A slower export growth reduces the growth of the terms of trade.

iv) The growth rate of per capita consumption increases because of the drop in the terms of trade growth rate: consumption goods becoming cheaper in the future are an incentive to shift consumption into the future. This is achieved by consuming less in the present.

v) These larger savings rates and increased growth rates of consumption lead to larger long-run values of wealth per unit of GDP and of consumption per unit of GDP.

vi) A higher wealth/GDP ratio leads to a lower debt/GDP ratio and a lower debt/wealth ratio and therefore to lower spreads.

5. Changes in specialisation?10

Besides the growth effects there may be interesting long-run effects on the trade pattern if the de-valuations are real and permanent. Imagine a Heckscher-Ohlin model in which one of the sectors is producing capital goods and the other is producing consumer goods. If capital-labour endowment ratios differ sufficiently, both countries will be perfectly specialised: the less developed countries importing capital goods. A real de-valuation implies that imports are getting more expensive. If less capital goods are imported, capital intensive sectors may get less large relative to the labour-intensive sectors. To the extent that capital embodies technical progress, productivity growth of the capital-intensive sectors may also become smaller relative to labour-intensive sectors. If the growth reduction is not compensated elsewhere in the world, demand for developed countries’ capital goods is going to be reduced, which reduces the comparative advantage of the capital goods sector there.

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9 For a model including impact and transition effects see Ziesemer (1997, 1998).

10 I owe this point to Djono Subagjo.
6. Is the Asian Miracle over?

It seems premature, however, to conclude that the times of high growth rates are over. If the 'tigers' will in the long run have the same TFP growth as the old OECD countries, they may approach the same path as the latter. Hong Kong and Singapore, having still much lower incomes than other cities in the world, have of course some further potential for catching up. The same is true for Korea and Taiwan which have reached income levels comparable to the richer OECD countries. Moreover, Singapore, Hong Kong and Taiwan are less strongly affected by the crisis except for the consequences of Hong Kong's currency board, which has led to high interest rates and negative growth rates.

However, if one does not believe in the TFP growth rate results used above the prospects of course may be viewed as being less favourable. Moreover, Thailand had invested much less in human capital than the others in the 1980s and would have had to expect an earlier slow down running into decreasing returns to capital and labour if it had not increased its public expenditure on education to 4% of GNP. This decision may prevent Thailand from running into decreasing returns unnecessarily early. However, Korea seems to have a serious conflict about the power of the Chaebols, which the new president wants to split up and Indonesia has social unrest and is getting back its migrants from Malaysia. Therefore at least for Korea and Indonesia, the seriously affected countries, the prospects are not too gloomy.

The big questions, for all of these countries, however, will be whether or not the slowdown of Japanese growth will be replaced by growth in China and India and how long the credit crunch keeps them from recovering. Latin America and Africa had a lost decade after 1982. World economic growth is more favourable for the Asians than it was for them. Stiglitz (1998) argues that empirical research has shown that the impact of banking crises on growth lasts for about five years.

7. Will the growth poles of the world still be in Asia?

One of the predictions for the long run has been that Asia will take over the US and Europe's role as the growth pole of the world. Since this was based on an assumption of high growth rates, this prediction has become quite a bit doubtful. What remains is the importance of the large number of people, and the size of the markets. Whether this will lead to a dominant position in world economic growth will depend on the success of reforms in banking, other businesses and policy.

8. The financial centre of Asia: In Japan or China?

China is currently praised for not devaluing the Yuan/Renminbi. It may not have devalued in an effort to establish a reputation for stability, which may lead to shifting the role of a financial centre of Asia from Tokio to Hong Kong and Shanghai if it is sustained for a long time.

9. The IMF in the long run

The first point concerning the IMF is whether or not it should be allowed to actively support the choice of a fixed exchange rate system again. Russia chose a fixed exchange rate system in spite of all the lessons that illustrate that policy has to be subordinated totally to such a system. It is obvious that countries in transition can hardly do this. The liberalisation of capital movements and the occurrence of hot money and herd behaviour have made it more likely that shocks are foreign rather than domestic. Therefore flexible exchange rates have become more desirable. However, McKinnon (1998) still insists on exchange rates fixed to the dollar. The IMF seems to be sympathetic to the idea using them as an anchor, although more and more countries moved to flexible rates in the years after 1982. However, the risks of fixed exchange rates have been pointed out repeatedly. Concerning the issue of flexible versus fixed exchange rate systems the IMF is to some degree non-unanimous. Distinguishing between seminar rooms, the country divisions and the board seems useful here. In seminar rooms there seems to be lots of debate. However, in the case of Brazil, the IMF policy has repeatedly chosen to support fixed exchange rates. In each case the costs were about $45 billion. The political decisions, which attract criticism, are, of course, not made in the seminar room, but rather by the top IMF officials under heavy influence of the member countries' governments. It is here where things tend to go wrong. It should not be the task of the IMF to guarantee countries' exchange rate beyond a role as a lender of last resort.

Second, if „APEC could concentrate more on OECD type activities, analysing macroeconomic policy and so on“ the IMF might get some competition in the evaluation of economic policy.

Conceptually, the IMF will have to reconsider its view on the relationship between the short run and the long run. The IMF seems to believe that confidence returns if policy is in accordance with long run requirements. Therefore it imposes bank reform and fiscal policy ideas to be carried out immediately. However, this may reinforce problems of...
overshooting or even panic. Financial markets base their actions also on the short run and transitional dynamics. If policy worsens these processes, capital may be withdrawn — this was the case in Indonesia. In more theoretical terms, the issue is that these processes are not dominated by jumps to optimal growth paths with rational expectations but rather by bubbles and overshooting. One of the reasons is that „investors ... will use diversification and indexed funds rather than going to the trouble of learning about the countries in which they invest”. This holds true even if the information is available, as much of it was in the Asian crisis.

10. Tobin tax, capital controls and all that

Closely related to this are five points raised by Intrilligator:

i) the IMF should move from „one size fits all” policies towards „custom tailoring policy”.
ii) The G-7 should be complemented by China and not by Russia.
iii) There should be some regional support mechanisms (in fact there are).
iv) The loss of some financial institutions will result in a loss of trade finance and therefore of the advantage of cheaper exports completely, again requiring rethinking on the side of the IMF. I disagree with the point that the advantage is lost, because Dutch imports from Asia have increased by more than 30 percent in April 1998.
v) The Tobin tax should be used against destabilising speculation. Kawai disagrees here because there are some countries that have taxes on stock transactions but still have bubbles and collapses of bubbles; liquidity requirements seem to work better. Moreover, one may ask the question in which exact sense we can speak of „destabilising”? In exchange rate movements there seems to be a sort of overshooting and this raises the rather complicated question whether welfare losses from overshooting can be reduced by introducing transaction costs — which the Tobin tax actually would try to do. Another point is whether government revenues should be made dependent on the volatility of capital in- and outflows as it would under a Tobin tax. Asymmetric measures that slow down short-term inflows rather than all flows may be better. There is much disagreement on what the controls do. They certainly change the composition of short and long run flows (for the current debate this seems to be the crucial point) but perhaps not the volume. Reducing short run flows has also harmed trade credit flows. The welfare effect of controls therefore is also a subject of debate. Another open issue is whether computerisation of payments has improved or worsened the feasibility of controls. Given the fact that Chile has used its controls in a very flexible way, it seems somewhat premature to conclude that controls are obsolete from the mere fact that Chile has abandoned them. They may come back when necessary, i.e. when inflows return to Latin American countries. A more serious point is that the high implicit tax rates of capital controls lead to high real interest rates as currency boards do, although not necessarily to the same extent.

However, in a world with many imperfections one can not have ideal results on all aspects of the problems. An economist who is very familiar with the economics of financial market imperfections is no doubt Joseph Stiglitz. His view can be summarised as follows. The social risks, revealed by the crisis is larger than the private risk. In this case economic logic justifies „some type of a tax or regulation on international capital flows”. The Tobin tax, however, could be easy to circumvent in a world of rapid financial innovation. First, it is necessary „to eliminate those taxes, regulatory, and policy distortions which may, in the past, have served to stimulate short-term capital flows.” Second, Colombia’s regulations seem to have served well during the crisis. These regulations were similar to those of Chile. However, the reserve requirements applied „to all loans with maturities of five years or less (except for trade credit with a maturity of four months or less).” The magnitude of the reserve requirement was a decreasing function of the maturity of the loan, and ranged from 140 percent for loans of thirty days or less to 42.8 percent for five-year loans. Net capital inflows were in the neighborhood of 5.0 percent in 1994-1995, ... short-term flows accounted for a declining share of total capital inflows after the implementation of the capital inflow taxes. The same result was obtained in Chile, which was neither affected by the Tequila crisis in 1994-95 nor by the East Asian crisis. Another measure could be limiting the extent of tax deductibility for interest in debt denominated in or linked to foreign currencies. But even with these measures, Stiglitz argues, international capital market institutions are much weaker than those of national markets and therefore crises might remain high probability events.

Another interesting instrument is Willem Buiter’s roll-over option with punishment to be added to short-term debt. It is rather unclear, however, whether markets work efficiently in determining the price of that option and the corresponding punishment, because these values will be different at times of low perceived probabilities for liquidity...

20 See Saving et al. (1998).
22 See Saving et al. (1998).
23 See Reinhart and Smith (1997) and Edwards (1998) on this and the rest of this section.
25 See Reinhart and Smith (1997b).
problems than at times when they are high. The interesting aspect here is that the risk is shifted to lenders. This may make them keen to evaluate risks more carefully than they did in the past. However, one may add the question here why — after all the financial innovations the world has seen, particularly developments of options — the market has not generated this option. Probably it is not an equilibrium solution.

Finally, one should keep in mind that the Barings crisis of the 1990s has shown that it may be pretty difficult to introduce capital controls. This was also one of the reasons for liberalisation of capital markets. If these problems remain predominant, flexible exchange rates may be even more important.

11. Summary and conclusions

1. Although this is an ongoing debate, growth of the Asian economies seemingly came predominantly from factor accumulation, not from total factor productivity growth and therefore could be expected to slow down at some point in time.

2. A lag in recognising changes in growth rate developments of some countries may have contributed to too much optimism about the bubbles of the stock exchanges of all these countries which later led to some plunge in all of these countries.

3. A change in the co-ordination of industry policy of Korea may have created over-capacity in some branches, leading to problems of the stock exchange and the exchange rate.


5. Growth rates of capital-labour ratios, wages, terms of trade will decline in the long run and debt/GDP ratios and spreads will be lower. Consumption growth rates and wealth/GDP ratios will be higher.

6. The trade pattern may shift towards labour-intensive goods in the crisis countries and therefore away from capital goods production in developing countries if the de-valuations are real and permanent.

7. Singapore and Taiwan will continue the 'miracle' in the long run. Korea, Thailand, Indonesia and Hong Kong may undergo a difficult period of probably five years, if not a lost decade. They will continue the miracle only if i) reforms are successful and if ii) they don’t go down the road of Latin America, with its strong role for the armed forces providing a threat against raising taxes. This is still a problem for President Cardoso in Brazil as it was for the Argentine president Raoul Alfonsin. It is therefore of utmost importance that „Defense expenditures have gone under the ax many times, and will again go under the ax, and that will effect the western economy.” 28 Thailand has already reacted by increasing public expenditures on education as a share of GNP.

8. The shift of the world business centre to Asia will be slowed down.

9. China may want to use the Japanese growth weakness as well as that of the banking sector to try to shift the centre of Asian finance away from Tokyo to Hong Kong and Shanghai.

10. The IMF should not support the choice of fixed exchange rate systems any more. It should adjust many of its concepts concerning expectation formation and information costs, banking, capital market imperfections and adjustment paths. This point is an issue addressed to the country-policy divisions which need more diffusion of knowledge from the research divisions.

11. Some capital controls might allow for decreasing interest rates in the short run without inducing de-valuations of exchange rates. In the long run capital controls might slow down the amount of short-term capital flows at some cost.

28 Panitchpakdi in Saving et al. (1998).
Zusammenfassung

Langfristige Aspekte der asiatischen Verschuldungskrise