

Financial Crisis in Asia: the Need for a Realistic Exchange Rate Policy

Dynamic growth and a substantial inflow of international capital were until recently the predominant characteristics of many economies in south-east Asia, which were frequently seen as a model for other countries. The recent currency crisis has now led to a major revision of the economic performance ranking of this region by the leading international financial institutions. Prior to the crisis the macroeconomic indicators normally used had not indicated any major problems. Considered alone, neither inflationary trends nor government debt pointed to a worsening of the economic situation. It seems that focusing on these traditional crisis indicators prevented early recognition of the dangers. Closer analysis revealed that since as early as 1994/1995 early-warning signs of a worsening situation had become visible in Thailand, Indonesia and Korea, the three countries considered here. Persistent real currency appreciation and a banking system based on non-competitive principles were compressed into an explosive mixture for the countries' balance of payments position. The domestic economic consequences of the turbulence on the foreign exchange markets require a reorientation of exchange rate policy and structural reform of the financial sector. In order to regain the confidence of the foreign exchange markets, governments have adopted a restrictive monetary and fiscal policy stance. Against the background of the weakness of social security systems in the region, however, it is argued that a more expansionary fiscal policy, contrary to that recommended by the IMF, should be pursued in order to defuse the crisis.

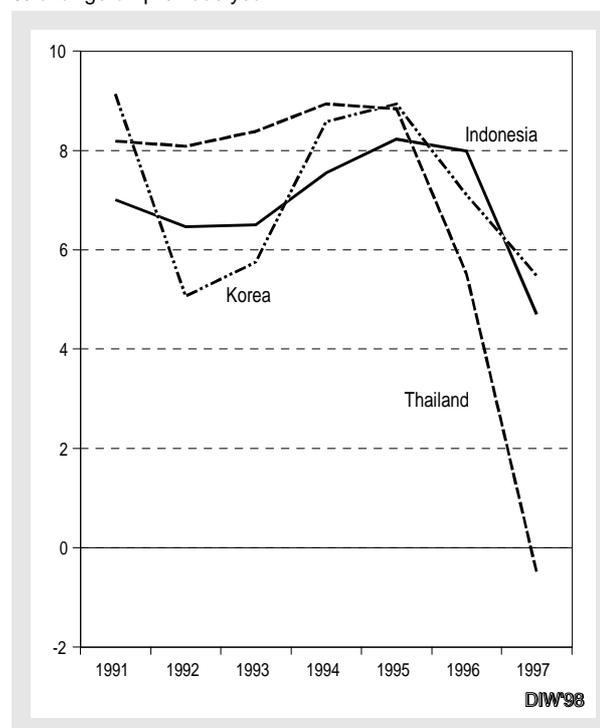
Unrealistic exchange rate pegs

Current developments on the foreign exchange markets indicate that the crisis in Asia is far from over. This marks the end of the sustained and dynamic economic growth experienced by the region (cf. figure 1). Whereas over the years the south-east Asian newly industrialising countries had caught up in economic terms with the industrialised countries, they are now in danger of falling back once more. In the past, the exchange rate policy pursued by these countries, which during the 1990s consisted basically of pegging – with varying degrees of rigidity – the exchange rate to an anchor currency, the

US-dollar, had been widely seen as a central element in promoting their economic development. The aim of this policy was to import price stability from the USA and at the same time to create reliable monetary conditions with minimal exchange rate fluctuations. The underlying aim of all this was to promote the import of international capital. The additional supply of financial resources thus generated was to achieve more dynamic economic growth in these countries than would have been the case if only domestic resources had been mobilised.

Such an exchange rate peg can only function if the developing country starts with an undervalued currency and the inflation rates in the anchor-currency country and that whose currency has been pegged converge. This can be achieved without conflict over income distribution if unit labour costs – that is the ratio of wage and productivity trends – and profitability trends are oriented towards relations in the anchor-currency country. This averts the danger of prices in the pegged country becoming higher than in the reserve-currency country, i.e. that its currency appreciates in real terms, leading to balance of payments problems. The extent to which convergence is required is determined by the rigidity of the exchange rate peg. If the exchange rate is

Figure 1
Real GDP
% change on previous year

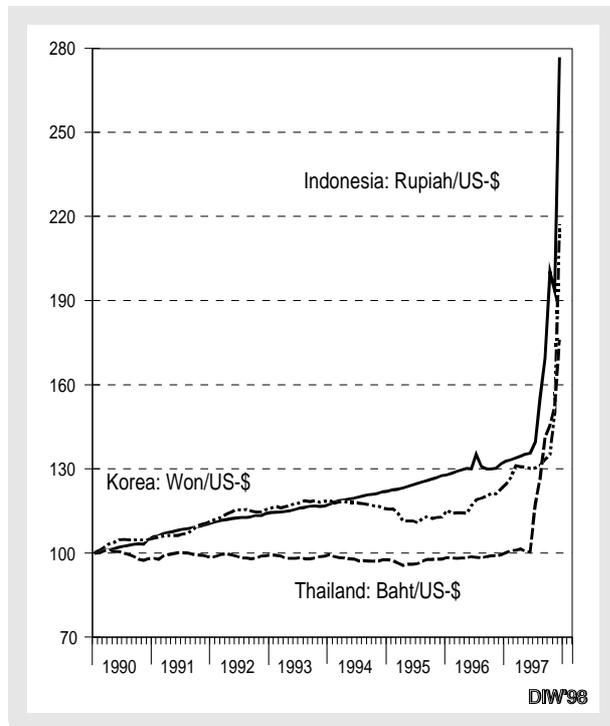


Sources: Federal Reserve Board; DIW calculations.

fixed, inflation rates should be roughly equal over the longer term. However, many countries allow for a longer adjustment period, for example with a view to the substantial institutional differences vis-à-vis the anchor-currency country, and thus opt for a less demanding form of exchange rate peg, one that from the outset permits devaluations at a predetermined rate. This so-called "crawling peg" permits differences in inflationary trends up to the rate at which the currency is devalued, without the currency appreciating in real terms. In such a case the adjustment constraints are far less stringent than if nominal exchange rates are fixed.

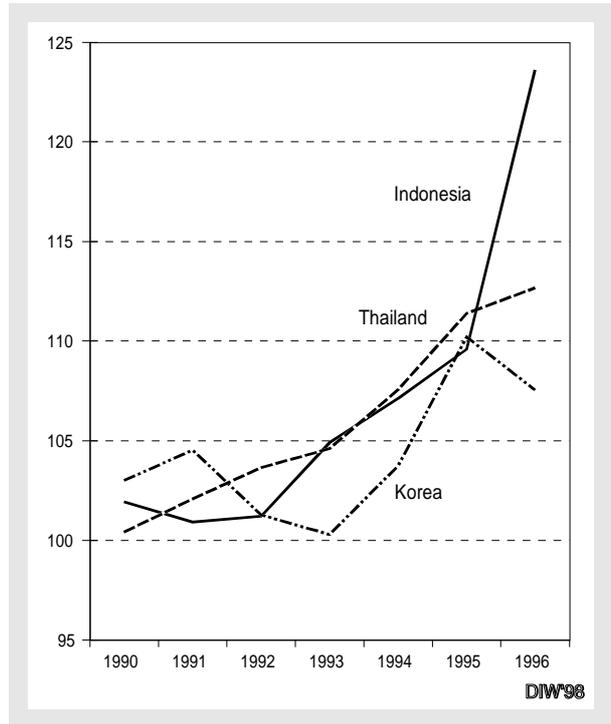
The three countries considered here were all characterised by exchange rate pegs of a varying degree of rigidity. In the case of Thailand, the exchange rate of the baht to the US-dollar was roughly constant from 1990 to mid-1997; that is, the exchange rate was fixed and the country attempted to maintain an extremely close link to the dollar. The Indonesian rupiah, by contrast, depreciated during the same period in nominal terms by between 3% and 5% every year (cf. figure 2). Between 1990 and 1994 the Korean won followed a similar trend to the Indonesian currency. Between 1994 and the summer of 1995 it experienced a slight nominal revaluation totalling just over 6%. This was followed, prior to the outbreak of the currency crisis, by a substantial depreci-

Figure 2
Exchange Rate Trends



Sources: Federal Reserve Board; DIW calculations.

Figure 3
Real Exchange Rate¹ in US-Dollar



1) Nominal exchange rate deflated with the quotient of national CPI to US CPI. Sources: IMF; OECD; DIW calculations.

ation. By the start of 1997 the Korean won had already lost more than 11% of its value compared to its maximum in 1995. Thus Korea's exchange rate policy was considerably less steady than that of the two other countries.

The data reveal that the currencies of Thailand, Korea and Indonesia appreciated in real terms during the 1990s (cf. figure 3). This was most pronounced in the case of Indonesia, at over 20%, whereby the continuous nominal devaluation was far from sufficient to compensate for the inflation-rate differential to the USA. The real appreciation accelerated in 1995/1996 as inflation picked up, while at the same time the dollar depreciated. Thailand was also forced to accept a real appreciation of its currency, albeit a less dramatic one, with the result that by 1996 the real external value was almost 15% higher than in 1990. The real appreciation was least pronounced in Korea, but it nonetheless failed to achieve complete convergence to price trends in the dollar area.

Additionally to the precariousness inherent in the development strategy adopted came destabilising effects from outside the region. From 1995 on the dollar rose in value, pulling up the pegged currencies with it, so that for this reason alone the real appreciation against third currencies accelerated. On top of this came the ever-increasing degree of price stability in the USA

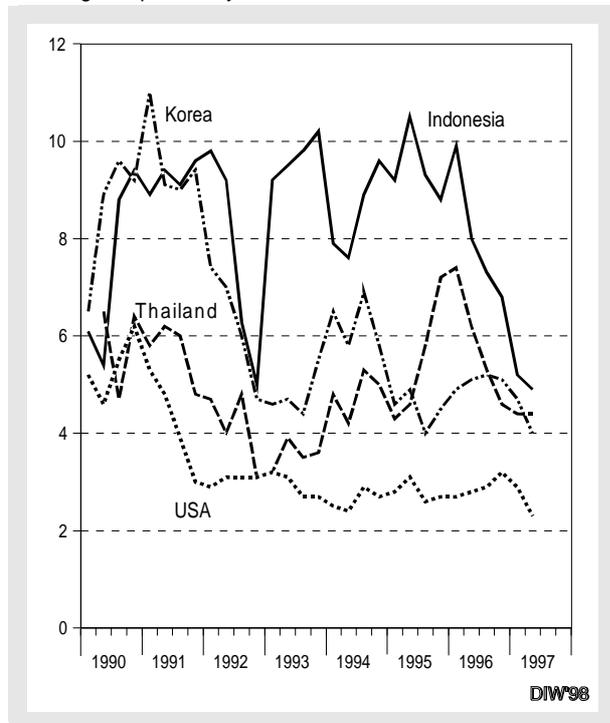
(cf. figure 4), which made the adjustment target in terms of inflation in the south-east Asian countries increasingly ambitious, and thus a failure of inflationary convergence increasingly probable.¹ All in all, it was inevitable that the policy of adjustment by means of the currency peg would at some point lead to tensions on the foreign exchange and capital markets.

Declining competitiveness and rising foreign debt

The shifts in real exchange rate parities had repercussions for the competitiveness of the three countries. Real appreciation made export goods increasingly expensive and imported goods cheaper and cheaper. This led to in some cases considerable current account deficits (cf. figure 5). In Thailand, where the real appreciation had been most pronounced, the negative turnaround on the for-

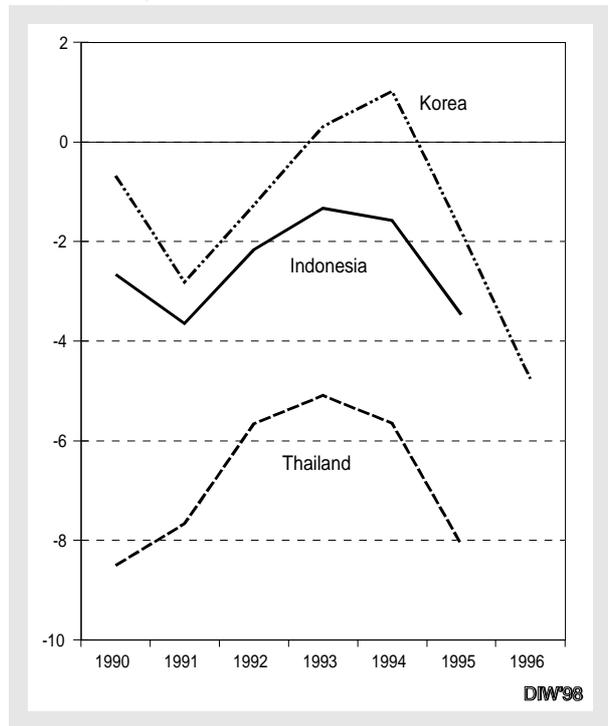
¹ Cf. Goldfain, I, Valdes, R.: Are Currency Crises Predictable?, *International Monetary Fund Working Paper*, December 1997; Kaminsky, G., Lizondo, S., Reinhard, C.: Leading Indicators of Currency Crisis, *The World Bank, Policy Research Working Paper*, November 1997.

Figure 4
Inflation Rates
% change on previous year



Sources: IMF; DIW calculations.

Figure 5
Current Account Deficits
as a percentage of GDP



Sources: IMF; DIW calculations.

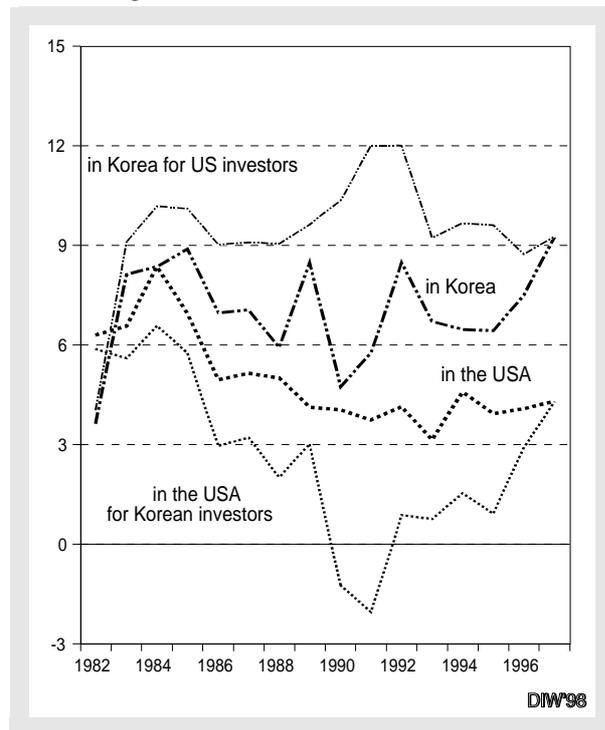
ign trade balance was greatest, with a deficit of almost 9% of GDP in 1995. In Indonesia and even more so in Korea, the deficits were considerably smaller as a proportion of GDP. Even so, they increased sharply in 1995 and 1996 as real appreciation was particularly strong in these years.

At the same time these countries were increasingly demanding capital on the global capital markets. In order to meet this demand for capital, interest rates in these countries had to be higher in real terms than in the anchor currency country. For it was only under such conditions that investors were willing to place their financial resources at the disposal of newly industrialising countries, where investment was usually considered more risky. For this reason, since the mid-1980s capital market interest rates in Korea, Indonesia and Thailand were substantially higher than in the USA.²

The high rates of return, particularly for foreign financial investors, generated by this combination of exchange rate and interest rate policy can be illustrated with reference to the Korean case. Looking at the real

² Cf. Krugman, P.: What happened to Asia?, January 1998 (<http://web.mit.edu/Krugman>).

Figure 6
Real Long-term Interest Rates¹



1) Long-term interest rates were adjusted using the current GDP deflator.
Sources: IMF; DIW calculations.

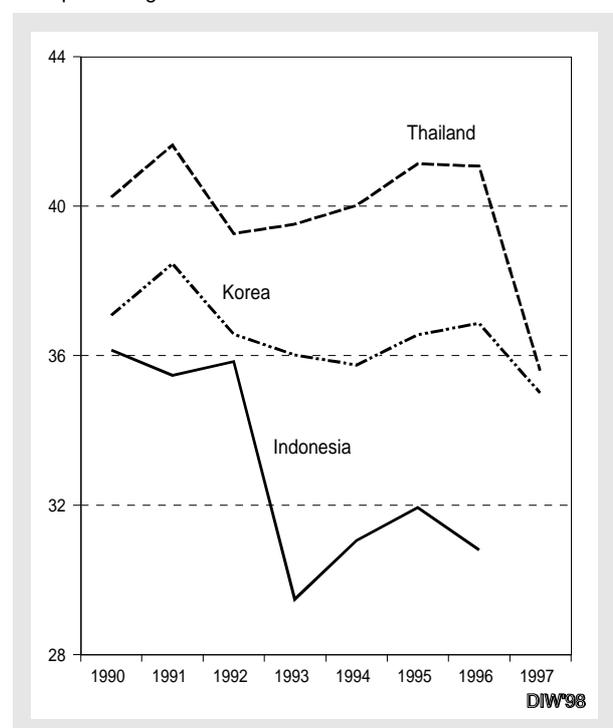
rate of return from the different perspectives of Korean and American investors, conclusions can be drawn on the impact of interest rate trends on capital flows (cf. figure 6). Generally speaking, the real rate of return has been higher, not only in Korea but in almost all Asian countries, than in the USA since the 1980s; since the start of the 1990s the gap has been considerable. Assuming that investors base their evaluations of real rates of return on the prevailing national inflation rates, a difference emerges in the yields earned by domestic and foreign investors. The real rate of return for American investors was far higher in Asia than on the domestic market. Conversely, the real rate of return for Asian investors was markedly higher at home than in the USA. The interest rate differential between these countries and the USA reflected not least the different risks involved in capital investment between the regions. On top of this came the fact that for Asian borrowers, given virtually fixed exchange rates, it was cheaper to borrow on the international financial markets than on the domestic market precisely because of this interest rate differential. This constellation of exchange rates and interest rates steered capital flows towards Asia and led to substantial current account deficits.

There the supply of capital met with rapidly expanding demand. Since the start of the 1990s borrowing by these countries on the international capital market had increased significantly. In Thailand, for example, foreign debt trebled between 1990 and 1996. The main reason why the foreign indebtedness indicator did not also increase significantly was the dynamic growth of these economies. It was primarily this dynamic economic growth that permitted a rapid rate of capital accumulation in the domestic economy. This manifested itself in an investment share of more than 30% of GDP (cf. figure 7).

Precarious financial markets

The strategy of externally financed growth with a pegged exchange rate and capital inflows induced by higher interest rates brought with it serious risks, due to the stringent adjustment requirements implied by the strategy. In order to be able to finance higher capital market yields over the longer term, rates of return on real capital had to be at least as high as (real) interest rates on the capital market. It had to be doubted

Figure 7
Gross Investment Share
as a percentage of GDP

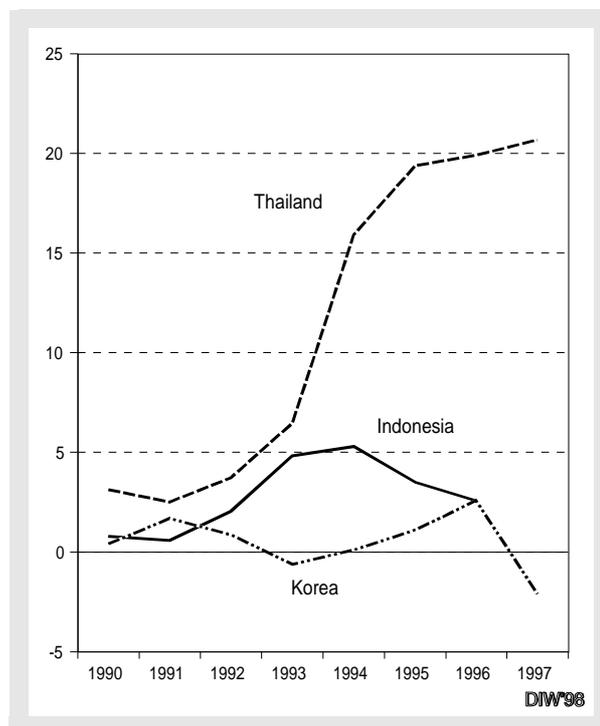


Sources: IMF; DIW calculations.

whether, in the course of the catching-up process, the Asian countries would in fact be able to earn such high yields over an extended period. Both economic theory and empirical evidence suggest that real rates of return decline in the course of the catching-up process, because capital productivity declines. Moreover, it was not the government, but rather national commercial banks that borrowed most on the international capital market. Yet the banks operated under a relatively "soft" framework of institutional conditions; in many cases the regulation of financial intermediaries in Asia was far from meeting international standards. In addition, around one quarter of lending was made by financial intermediaries whose credit policy was in any case subject to special conditions (e.g. development banks). The trend towards credit policies that were not based on efficiency and risk criteria was exacerbated by the fact that the commercial banks had close links to, or were owned by, the public sector. In sum, the framework of institutional conditions itself formed the basis for a high-risk credit policy. Putting it somewhat simply, it can be concluded that the countries affected had not only an exchange rate regime that was regulated by the state, but also that active regulation of the financial markets had been replaced by an implicit government risk guarantee. This created the illusion that domestic financial intermediaries, and implicitly also international investors, could roll over the credit risk to national governments. From the perspective of foreign investors, both the relatively fixed exchange rate and this form of implicit capital market "insurance" served substantially to reduce the risk attached to their operations. At the same time, these institutional conditions also formed the basis for a misallocation of the funds borrowed on the international capital market in the domestic economy. Under conditions of economic boom, high-interest loans were used to acquire real estate with which in the longer term a corresponding rate of return could not be earned. By the end of 1996 the open foreign currency positions of the financial intermediaries had in some cases already reached dangerous proportions in Thailand, where the crisis had begun (cf. figure 8). At the time just 15% of banks' foreign debt were covered by corresponding claims; by June 1997 this figure had fallen to 6%.

Contrary to statements issued ex post, internationally active financial intermediaries with investments in Asia were well aware of these dangers and had reacted at an early stage. The Bank for International Settlements (BIS), for example, had pointed out back in 1994 that Thailand, against the background of a persistent increase in overall borrowing, was increasingly reliant on short-term funds (cf. table 1). Under these circumstances such fundamental indicators as changes in real exchange rates and the maturity structure of foreign

Figure 8
**Open Foreign Currency
 Position of the Commercial Banks**
 as a percentage of all claims



Sources: IMF; DIW calculations.

debt could have been used to identify a financial in the development of the Asian countries at an early stage. The fact that this did not occur – indeed, more than that, the fact that even ex post it was pointed out that the usual macroeconomic indicators had failed to predict the crisis – must be put down primarily to the fixation with government debt; in Asia, however, this indicator reflects only a proportion of government activities, due to the specific institutional conditions prevailing there.

In the event, the crisis in Thailand in the summer of 1997 had been preceded by a deteriorating situation in the banking sector. In the course of this crisis on the financial markets, the Thai government provided US-\$ 3.9 billion in short-term funds alone in order to restructure the portfolios of financial intermediaries who had borrowed in foreign currency, but were unable to honour their commitments because of the inability of their creditors to meet their obligations. At the latest with the collapse of the largest Thai financial holding company, "Finance One", in the spring of 1997, the seriousness of the situation was all too apparent. Contrary to what was subsequently claimed, this signal was well understood by the many internationally active financial institutions; starting in May, capital was increasingly withdrawn,

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Table
Foreign debt¹⁾
 in US-\$ millions

	1990		1991		1992		1993		1994			1995				1996				1997	
	WB ^a	OECD ^b	BIS/ OECD ^c	WB ^a	OECD ^b	BIS/ OECD ^c	BIS ^d	WB ^a	BIS/ OECD ^c	BIS ^d	Nat. s. ^e	BIS ^d	Nat. s. ^e								
Indonesia																					
Total debt	69 934	68 067	79 548	77 274	88 002	86 451	89 172	88 470	107 824	99 243	49 900	124 398	111 537	58 088	44 500	129 033	65 635	55 500	59 045	58 388	57 860
Long-term debt ²⁾	58 305	52 793	65 067	63 253	69 945	68 457	71 185	70 170	88 367	78 094	—	98 432	80 094	—	15 486	96 803	—	18 926	—	21 013	—
IMF-lending	494	—	166	—	0	—	0	—	0	—	—	0	—	—	—	0	—	—	—	—	—
Short-term debt ²⁾	11 135	15 116	14 315	13 698	18 057	17 596	17 987	17 877	19 457	20 575	—	25 966	30 923	—	27 546	32 230	—	34 244	—	35 383	—
Korea																					
Total debt	—	46 797	—	54 746	—	59 246	—	66 180	—	85 555	63631	—	113 463	84 862	77 500	—	109 962	100 000	157 500	94 180	154 400
Long-term debt ²⁾	—	23 710	—	29 370	—	33 755	—	38 050	—	44 847	—	—	53 832	—	14 570	—	—	20 000	57 500	21 657	86 000
IMF-lending	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Short-term debt ²⁾	—	22 790	—	25 108	—	25 230	—	27 800	—	40 179	—	—	58 969	—	54 250	—	—	67 500	100 000	59444	68 400
Thailand																					
Total debt	28 088	30 341	37 705	37 164	41 812	42 906	52 668	52 622	65 522	77 163	60 204	83 166	116 226	100 320	62 800	90 823	106 332	70 100	90 600	58 835	91 700
Long-term debt ²⁾	19 765	20 891	25 213	24 845	27 085	26 114	30 034	28 486	36 343	35 683	—	42 071	45 669	—	17 144	53 210	—	21 170	53 000	17 991	63 100
IMF-lending	1	—	0	—	0	—	0	—	0	—	—	0	—	—	—	0	—	—	—	—	—
Short-term debt ²⁾	8 322	8 517	12 492	11 188	14 727	15 442	22 634	22 618	29 179	39 705	—	41 095	68 637	—	43 583	37 613	—	45 705	37 600	38 772	28 600

1) At year's end. — 2) In the case of OECD and BIS, the long- and short-term debt do not sum to total due to a non-classifiable residual.

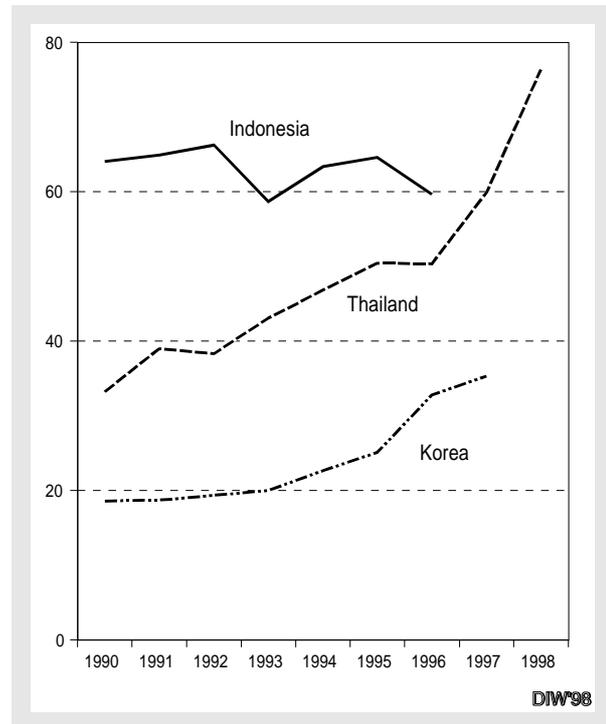
Sources: ^a World Bank, Global Development Finance, 1998. — ^b OECD, External Debt Statistics, Supplement, 1985 to 1996, 1997. — ^c Bank for International Settlements Basle (BIS) and OECD, Statistics on external indebtedness, New Series, No. 18 (January 1997), No. 20 (January 1998). — ^d BIS, Consolidated international banking statistics, January and May 1998. — ^e National source: Bank Indonesia, Financial Statistics, April 1998, (downloaded from the internet in May: <http://www.bi.go.id/>); Press Release by the South Korean Ministry of Finance and Economy, Unofficial Summary Translation, April 1, 1998 (downloaded from the internet in May 98: <http://kiep.go.kr/IMF/hot-2-h7.html>).

and the crisis began to take the form of a self-fulfilling prophecy. The crisis itself was then nothing more than the open manifestation of a destabilisation of the Asian economies that until that point had remained largely latent.³

Necessary reforms

The drastic currency devaluations, starting with the floating of the Thai baht, led to an explosive increase in foreign debt in terms of GDP in national currency, even though government debt in these countries was relatively low (cf. figure 9). Domestic banks were confronted with defaulting debtors and were themselves increasingly unable to service their debts on international financial markets. Unlike in previous currency crises, indebtedness was largely a result of private transactions. Under the assumption of a fixed exchange rate and of a government bail-out, it had been possible to equate the expected real rate of interest with the expected risk-adjusted return on financial transactions. The sudden shift in exchange rates, however, changed the basis for this calculation, as the government's reserves of foreign currency had already been exhausted in the attempt to stabilise the exchange rate. Initially this situation must have appeared all but hopeless to creditors. In the event, however, their high-risk behaviour was not fully sanctioned. With its swift assurance of lending commitments and substantial transfers – within a matter of weeks the Asian countries were given financial aid commitments of more than US-\$ 100 billion – the IMF provided clear incentives for international financial intermediaries to continue high-risk lending. It is therefore not surprising that even after the onset of the crisis, private intermediaries continued to lend to various Asian banks. The latter could no longer rely on a government bail-out, but they could count on international support. The aim of these substantial IMF transactions was twofold: firstly to ensure that financial markets in Asia continued to function despite the crisis, and secondly to protect creditors. The IMF acted as an insurance fund for private financial market risks, financed by the international community. It is therefore no coincidence that during the crisis calls were made for the IMF to be instituted as the supreme regulatory body for financial transactions. An additional *quid pro quo* for the willingness of the international organisation to bail

Figure 9
Foreign Debt-to-Output Ratios
as a percentage of GDP



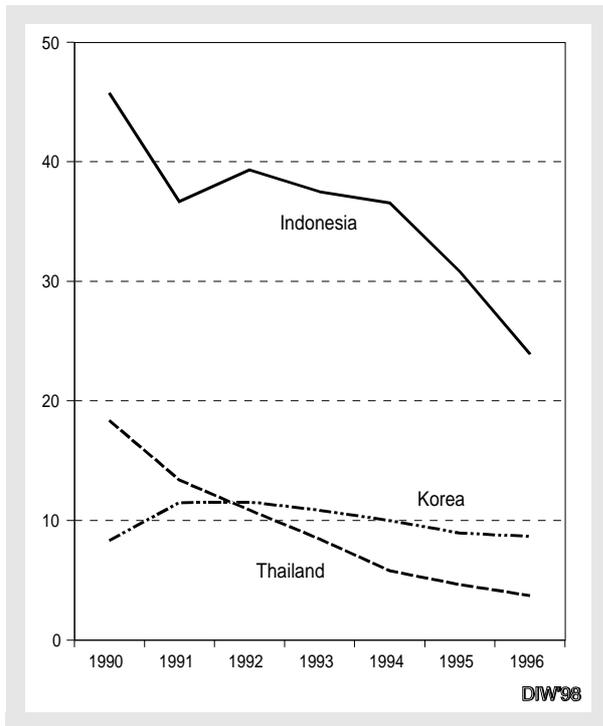
Sources: WB, Global Development Finance; Bank of Thailand: estimates 97/98; IWF; Korea: OECD, External Debt Statistics; Supplement 1985 to 1996; Ministry of Finance, 1996 and estimates for 1997; DIW calculations.

out the countries affected was that they participate in IMF programmes. It should be noted in this context that it was the IMF that had recommended a fixed nominal anchor for countries facing the problems associated with "catching-up development" as the central instrument of stability policy. This strategy has been shown to be susceptible to crisis.

This is also revealed by the most recent developments on the foreign exchange markets: the dramatic devaluation of the yen confronts the exchange rate policy of the Asian countries with new difficulties, as the fall in the external value of the Japanese currency calls into question the improvement in the international competitiveness of the countries hit by crisis on which hopes of recovery had been pinned. Currency trends are still not under control, particularly in Indonesia. On the other hand, the depreciation of the Korean won against the US-dollar appears to have come to an end, the exchange rate remaining virtually unchanged since the start of this year. Indeed, Thailand's currency has appreciated significantly. It seems that the speculative overshooting has now been corrected, at least in the case of Thailand. The currency policy of both these countries is therefore likely to seek to re-establish an exchange rate peg, albeit

³ In the literature this is discussed under the heading of the "twin crisis": cf., for example, Kaminsky, G., Reinhard, C: The twin crisis: the causes of banking and balance-of-payments problems, Board of the Governors of the Federal Reserve System, *International Finance Discussion Papers*, no. 544, March 1996.

Figure 10
Government Debt
 as a percentage of GDP



Sources: IMF; DIW calculations.

on the basis of the now prevailing exchange rates, despite the susceptibility of this strategy to crisis.

The danger here is that the central problem, namely the combination of a fixed exchange rate and wage inflation, on the one hand, and an inefficient banking sector, on the other, will remain. Any attempt at reform is doomed to failure unless an exchange rate strategy is selected that is appropriate to wage trends and inflation. If the Asian countries wish in the longer term to achieve inflation rates similar to those in the USA, they must restructure their wage-determination mechanisms if adjustment crises are to be avoided in future. More specifically, it must be ensured that the macroeconomic inflation targets are respected in setting wages. There is a need for realism on this point. If such targets cannot be implemented in practice, given differences on labour markets that are clearly structural in nature, then the exchange rate mechanism must be selected in such a way that it allows for such divergence. In other words, continuous nominal devaluations are then unavoidable. In order to avoid imposing an incalculable depreciation risk on the capital markets, so that financial investment is subjected to a substantial risk premium, a crawling-peg approach, based on pre-announced, credible and repeated devaluations, would appear to be the best way to avoid deterring foreign capital. What is vital is that

the announced devaluations match the expected inflation differentials vis-à-vis the anchor-currency country. If this is not the case, as happened in Indonesia, repeated exchange rate adjustment shocks must be expected. Even ex post revisions are problematic, as this involves failing to meet the expectations self set, at least once: this, in turn, reduces the credibility of subsequent announcements. In any case, what is certainly required in addition is structural reform of the financial sector. Regulatory provisions in all the countries affected must be brought into line with international standards, so that in future negative developments on the capital market can be sanctioned by an appropriate risk evaluation. Some progress has already been made in this direction.

Conclusion

Recent developments on the Asian foreign-currency markets show that the currency crises and their repercussions are almost certainly far from over. On the contrary, the devaluation of the yen has dealt a blow to the crisis-hit countries in their attempts to stabilise economic development. The measures adopted to this end, usually at the behest of the IMF, are insufficient. Indeed, the recommendation that countries impose a combination of restrictive monetary and fiscal policies raises the threat of a destabilisation of the domestic economy. The restrictive stance has already left indelible marks on economic development in the affected countries, and an explosive increase in unemployment seems likely. This is particularly worrying in the Asian countries, given their lack of social security systems.

A credible transition to a system of pre-announced devaluations ("crawling peg") could represent a starting point for a path leading out of the crisis. The exchange rate selected should signal an under-valuation rather than an over-valuation. Simultaneously structural changes must also be implemented. Wage setting must adapt to the framework set by the exchange rate link. The financial markets must adjust to meet international standards. Besides this, a change in the division of responsibilities between the public and the private sector is required. Government should withdraw all but completely from lending; on the other hand, it should pay greater attention to its function of providing social security, in order to be in a better crisis-management position in future. Such an approach should be preferred to support by the IMF, as it would constitute an attempt to stabilise the economy using domestic resources, rather than international taxpayers' money. It is only in this way that the costs of an inconsistent economic policy will be borne by those domestic actors responsible.

Gustav A. Horn and Mechthild Schrooten