LESSONS FROM EAST ASIA'S CRISIS AND RECOVERY

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This paper analyses the crisis and recovery in three East Asian countries, Malaysia, Thailand and the Republic of Korea. Using macroeconomic data for the three countries over a 13-year period, 1990-2002, the paper examines the factors leading to the crisis, the policy responses to the crisis, an evaluation of their recovery and the lessons that can be learned. While Thailand and the Republic of Korea had to turn to the IMF for assistance, Malaysia took the 'unorthodox' route of capital controls and a fixed currency peg to deal with the crisis. The paper argues that despite different policy stances all three countries experienced a largely similar V-shaped recovery. The paper concludes with an outline of key lessons for policy makers from the experience of the three countries.

East Asia's currency crisis of 1997-1998 was probably the most contagious of recent economic crises. Several countries, Malaysia, Thailand, Indonesia, the Republic of Korea and the Philippines, were hit directly while others such as Taiwan Province of China, Singapore and especially Hong Kong, China were badly affected.[1] What began as a speculative attack on the Thai baht in July 1997 quickly spread as 'contagion' to the other countries. Over a three-month period between July and October 1997, the baht fell nearly 40 per cent, the Malaysian ringgit and Philippine peso by about 27 per cent, the Indonesian rupiah by about 40 per cent and the Korean won approximately 35 per cent against the United States dollar. For countries that had been dubbed "miracle economies" this was a serious blow with wide-ranging economic, social and political ramifications.

The currency crisis quickly metamorphosed into what economists call a "twin crisis". In essence, slumping currencies and the policy response to defending

[1] In differentiating between crisis and affected countries we use the standard definition of a 25 per cent depreciation of the currency to denote a crisis.

them, set off, in turn, a domestic banking crisis. This happened in particular in four countries, the Republic of Korea, Thailand, Indonesia and Malaysia. Indonesia, faced with both economic and political crises, went into a tailspin. Singapore and Taiwan Province of China largely escaped unscathed while Hong Kong, China had to take innovative steps to continue defending its currency peg and its property and stock markets. Clearly, the impact was differential; some countries were affected much more than others, in proportion to the extent of vulnerability that had been accumulated over the years.

The objective of this paper is to undertake an empirical analysis of the factors leading to the crisis, the policy response of the sample countries, an evaluation of their recovery and the policy lessons that can be learned. In line with this, the paper is designed to address the following four specific questions: (a) How had these countries performed in the years leading to the crisis? (b) What was the policy response to the currency crisis and what similarities/differences were there in policy responses across countries? (c) How have the sample countries performed following the crisis? and (d) What lessons can we learn?

We address these questions by analysing the macroeconomic data of three countries, Malaysia, Thailand and the Republic of Korea, over a 13-year period, from 1990 to 2002.[2] The 13-year period is divided into three time segments. The period 1990-1996 is the pre-crisis period, 1997 and 1998 is considered the period of the crisis and 1999-2003, is the period of recovery. The other well-known crisis country, Indonesia, has been left out since its current problems are heavily compounded by political rather than economic issues and a purely economic assessment would render few, if any, meaningful insights. Except where otherwise stated, all data are sourced from the Asia Recovery Information Center (ARIC) of the Asian Development Bank. The paper is divided into four sections. Section I provides an overview of relevant literature and evaluates the economic performance of the sample countries in the seven years prior to the crisis, 1990-1996. Section II examines the crisis period 1997 and 1998 and the policy response. Section III outlines the recovery, while the final section evaluates the recovery and analyses the lessons learned.

I. THE PRE-CRISIS YEARS: 1990-1996

The need to understand currency crises has received much attention. This has largely been due to their increased frequency with the advent of globalization. Several alternative explanations have been put forth to explain currency induced crises. Broadly speaking, we could classify these into four broad categories;[3] (a) the existence

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[2]   Where available, data for the first two quarters of 2003 are also used.

[3]   See *IMF Working Paper WP/01/154.*

of structural weaknesses and/or policy distortions, (b) moral hazard, (c) self-fulfilling panics and (d) temporary illiquidity.

Structural weaknesses and/or policy distortions

This is probably the most often cited explanation for currency induced crises. Krugman (1979) views currency crises as speculative attacks resulting from deteriorating fundamentals. Budget deficits, excessive monetary growth, current account deficits and reserve losses are typical preconditions. When underlying fundamentals are inconsistent with the existing pegged exchange rate, a speculative attack results. More recently Frankel and Kose (1996), using data for 100 countries over a 20-year period, find that there are several common features of crisis countries. Among these are very high levels of debt financed by commercial banks on variable interest rates, sharp reductions in FDI inflows and overvalued exchange rates. Others have found that exchange rate overvaluations are good predictors of impending crises. Since an exchange rate regime is ultimately determined by the Government, overvaluations are nothing but purely policy induced distortions.

Moral hazard

Moral hazard arising from the existence of either actual or implicit guarantees has been put forth as yet another explanation. Most of the work has been within the asymmetric information framework. Frankel (1999) argues that the combination of informational asymmetries, implicit guarantees and lack of transparency accentuate adverse selection problems making the underlying economies vulnerable. These vulnerabilities remain masked until just before the crisis.

Illiquidities

Calvo and Mendoza (1996) point to temporary illiquidities arising from a rapid build-up of short-term external debt. A crisis can be touched off when a country's ability to service outstanding short-term debt appears questionable. Calvo and Mendoza argue that when large gaps exist in the stock of liquid financial assets and gross reserves in the presence of a pegged exchange rate, vulnerability increases. Given these imbalances, a sudden shock can quickly drain reserves, making the fixed exchange rate unsustainable.

Herding and self-fulfilling panics

Herding leads to self-fulfilling panics because rational investors would want to pull out their money if they believed other investors would do the same. When all investors hit the exits at the same time, a self-fulfilling crisis begins. When they

decide to pull out of other markets, contagion is the result. Radelet and Sachs (2001) and Sachs, Tornell and Velasco (1996) propose herding and self-fulfilling panics as causes of crises. The latter authors, analysing data for 20 emerging markets, argue however that for contagion and crisis to happen, there must have been some "degree of previous misbehavior".

Depending on how one looks at it, the Asian currency crisis could be explained by all four of the above propositions. While factors suck as a self-fulfilling panic or temporary illiquidity could have touched off the crisis, this paper will argue that, prior to the crisis, there existed serious structural weaknesses and policy distortions in all three sample countries.

Pre-crisis conditions

If there is one feature that can characterize economic performance in the three sample countries prior to the crisis, it must be their stellar growth record. Over the seven-year period 1990-1996, all three countries experienced very rapid GDP growth. Table 1 shows the compounded annual growth rate and the cumulative growth for the period.

Table 1. 1990-1996 nominal GDP growth
(in percentage)

	Compounded annual growth	*Cumulative compounded growth*
Malaysia	11.63	116
Thailand	11.22	110.6
Republic of Korea	11.7	117.4
Average	11.52	114.67

The three countries had an average annual growth of 11.52 per cent over the seven-year period. This is indeed an impressive performance by any measure. With cumulative growth above 100 per cent, all three countries had more than doubled their GDP in the seven-year period. It is not surprising, therefore, that these economies were referred to in glowing terms as "miracle economies". Yet in the following two years, 1997 and 1998, all three countries were in serious trouble.

The key to understanding what went wrong lies in examining how these GDP growth rates were financed. The growth pump was being primed by three broad means: a) rapid monetary growth, (b) large current account deficits and (c) capital inflows.

Rapid domestic monetary growth

Rapid domestic monetary growth appears to be a common feature of all three countries in the pre-crisis period. Table 2 shows how much the monetary pump had been used to fuel growth.

**Table 2. 1990-1996, growth in real GDP,
M2 and domestic credit**

	Real GDP	*M2*	*Domestic credit*
Malaysia	7.33	15.5	20.1
Thailand	6.86	13.6	21.3
Republic of Korea	6.31	14.6	17.8
Average	6.8	14.6	19.7
United States	*1.75*	*2.14*	*n.a.*

Two things are evident from table 2. First, money supply, as measured by M2, had grown at more than twice the rate of growth in real GDP. Second, domestic credit had grown approximately at three times the rate for real GDP. Such deviations between real and monetary growth can be harmful when sustained over a period of time. As we will see later, this led to serious distortions/vulnerabilities.

Current account deficits; negative savings – investment gaps

Table A1 in the appendix shows the current account balance as a percentage of GDP. Current account deficits have been pointed out as one of the key reasons for the currency crisis. Notice that all three countries had current account deficits in every one of the seven years before the crisis. In many instances the percentage was larger than the 5 per cent threshold which many would consider a risk level. There are a number of reasons for this consistent deficit. The first reason is the obvious push in all these countries for growth. Rapid GDP growth requires heavy investment growth. Thus, the import of capital goods increased and import growth outpaced that of exports in several years (tables A2 and A3 in the appendix).

There is yet another way by which a high growth policy can lead to current account deficits. From a theoretical viewpoint, a country is likely to run current account deficits if it has a savings – investment (S – I) gap. Essentially, the savings – investment gap reflects the net imports needed to finance the gap. Though East Asia is legendary for its high savings rate (approximately 35 per cent of GDP), the very high investment rates needed to sustain the high growth objective meant that the

S – I gap was negative for all three countries in the seven years prior to the crisis. Malaysia and Thailand had a negative S – I gap averaging 6.2 per cent of GDP. The Republic of Korea's was much lower at 1.7 per cent (see table A4 in the appendix).

Capital inflows – reliance on short-term inflows

The flip side of a current account deficit is a capital account surplus. Holding reserves constant, a current account deficit must be matched by a capital account surplus. What this implies is that the net imports of the current account will have to be financed by foreign capital inflows. As such, all our crisis countries have had capital account surpluses, meaning strong capital inflows. Large capital inflows in themselves are not a problem. It is the form and composition of the inflows that really matters. Inflows in the form of FDI are long term in nature and add to productive capacity. However, inflows in the form of portfolio investments or short-term deposits/ borrowing can be destabilizing. With the opening up of China and other countries, the traditional recipients such as our sample countries saw declining FDI inflows. Their high growth strategies, however, meant that capital inflows were needed to continually fuel the growth.

Though FDI inflows still constituted a major portion, short-term inflows in the form of portfolio investments and borrowing were increasing. Tables A5, A6 and A7 of the appendix show the increased reliance on loans and the composition of these loans. In each case we see a gradual increase in total foreign loans both in absolute terms and as a percentage of GDP. Total foreign loans as a percentage of GDP approached 40 per cent for Thailand and exceeded 25 per cent for the Republic of Korea. Malaysia's foreign loans stood at 22 per cent of GDP as at December 1996. Table A7 shows the composition of these loans. Short-term loans constituted more than two thirds of total loans for the Republic of Korea. Thailand's exceeded 65 per cent while Malaysia's stood at 56 per cent. Clearly, in all three cases, there had been a heavy reliance on short-term inflows.

From structural weaknesses to vulnerabilities

If the above factors show the structural weaknesses that were being built, a number of other policy induced distortions aggravated these weaknesses. Two such factors are worth noting. The first had to do with the exchange rate regime while the second was financial liberalization.

All three sample countries were on quasi-peg systems with their currencies being managed within narrow bands. While such a system reduces currency volatility, it requires that domestic monetary policies be in conformity with that of the currency to which it is pegged. Since in all three cases the exchange rate policy had been to keep the domestic currency within a narrow band bilaterally against the United States

dollar, monetary policy deviations were putting stress on the exchange rate. We saw in table 2 above how monetary growth in the sample countries was several-fold that of the United States for the 1990-1996 period. Additionally, annual inflation rates for the three countries averaged 5 per cent for the same seven-year period, while that of the United States was 2.6 per cent. Thus, by purchasing power parity measures (PPP), their currencies should have depreciated against the United States dollar. However, since the exchange rate regime was to keep the currency within narrow bands, the currencies were becoming overvalued in real terms even though they were about the same in nominal terms. Going by PPP, based on annual CPI numbers, the ringgit, baht and won had a percentage overvaluation as at end December 1996 of 12.5 per cent, 31.3 per cent and 35.4 respectively. Coupled with the fact that all three countries had low levels of international reserves, with the lowest levels recorded in 1997,[4] this indicated that these currencies were ripe for a speculative attack (table A8).

When the exchange rate regime is seen with the financial liberalization that had been taking place, the build-up in vulnerability seems to have been inevitable. Critics have pointed to the sequencing of liberalization as having been the problem. Instead of first strengthening the domestic banking sector before enabling it to source funds overseas, the opposite appears to have been the case – at least in Thailand and the Republic of Korea. For example in 1993, the Government of the Republic of Korea removed controls on short-term foreign borrowing by the country's banks. Since this was done while controls on direct access to foreign capital markets by Republic of Korea firms remained, the proportion of short-term debt exploded and created a serious maturity mismatch. A similar situation was played out in Thailand. There, as part of capital account liberalization, the Thai Government established the Bangkok International Banking Facility (BIBF). Thai banks used the facility to raise foreign currency loans which were then recycled domestically as baht loans. The rationale was the large interest spread that they were earning. That this was extremely risky from a currency exposure viewpoint was ignored. Thus in both countries the banking system had built up huge foreign currency loans and exposure.[5]

On the eve of the crisis in mid-1997, all three economies had also built serious financial sector fragility. The main contributor to this was the huge build-up in leveraging, both domestic and foreign. The build-up in leveraging was caused by the earlier monetary policy looseness and capital inflows. Asset bubbles, particularly, in the sectors most malleable to speculative activity, properties and stocks (shares) were a feature in all three countries.

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[4]   The low 1997 amount may also be due to reserves lost in defending the currency.

[5]   The Malaysian banking system did not have the same extent of foreign currency exposure because of the central bank's enforcement of the Exchange Control Act.

Not only were the banks that financed this leveraging over-extended, their situation was worsened by skewness in their direction of lending. In Malaysia, for example, more than half of all loans were directed at the broad property sector and financing of shares. Among the three countries, it was in Thailand that the property market bubble was worst. In the Republic of Korea lending was mostly to the *chaebols* (conglomerates), resulting in debt/equity ratios of four or five times for these firms.

The result was that the domestic corporate sector was both highly leveraged and had unhedged foreign currency exposures. The domestic banking sector, on the other hand, in having done the lending, was over-extended and in the Republic of Korea and Thailand had financed the lending with large amounts of foreign currency borrowing.

II. THE CRISIS PERIOD: 1997 AND 1998

The catalyst that led from vulnerability to full-blown crisis was the speculative attack on the Thai baht in July 1997. The initial attack worsened and spread as contagion to the other East Asian countries when it was revealed that the Thai central bank's level of usable reserves was much less than what had been originally reported. The speculative attack itself was not new. These same currencies had come under a similar attack in early 1995 following the Mexican peso crisis. Whereas they had successfully defended their currencies in 1995, this time it was different. What was different this time was the massive capital outflow. With hindsight, it now appears that, more than the speculative attack, it was indeed the capital outflow that led to a full-blown crisis. In Thailand, for example, the estimated capital outflow was 26 per cent of GDP within the first six months of the crisis. This superceded the largest ever previous reversal of 20 per cent of GDP for Argentina in the 1980s. The massive capital flight was probably the reaction to the vulnerabilities that had been building up and now laid bare by depreciating currencies.

Three things worked against the central banks in their efforts to stabilize their currencies: capital flight, low reserves and interest rates. Faced with capital outflows that were undermining their currencies and low reserves with which to defend, the central banks had little choice but to float their currencies and raise interest rates to prevent a financial collapse. Given the highly leveraged nature of their domestic economies, raising interest rates was extremely painful and counterproductive in some ways.

With depreciating currencies, rising interest rates became the mechanism by which the currency crisis was transmitted into a domestic banking sector crisis. By early 1998, all three countries showed signs of what in the literature is known as the "twin crisis". The banking sector in all three countries took a hit. As the corporate/ real sector began to reel under sharply increased interest rates, non-performing loans

(NPLs) spiked. The banking sector was faced with near collapse. Table 3 provides a summary of key economic variables for the two-year crisis period.

Table 3. Crisis and macrovariables

Real sector	1997		1998	
Real GDP growth				
Malaysia	7.3		-7.4	
Republic of Korea	5.0		-6.7	
Thailand	-1.4		-10.5	
Consumption expenditure growth				
	Private	Public	Private	Public
Malaysia	9.3	-10.2	8.9	-8.9
Republic of Korea	9.1	-11.7	40.6	-0.4
Thailand	4.4	-11.5	1.6	3.9
Gross domestic investment growth				
Malaysia	12		-44	
Republic of Korea	-8		-38	
Thailand	-22		-51	
Monetary sector – M2 growth per cent				
Malaysia	23		2	
Republic of Korea	14		24	
Thailand	16		10	
Three-month interbank rate				
Malaysia				
Republic of Korea	14.1		14.6	
Thailand	17		16.8	
Domestic credit growth				
Malaysia	29.3		-2.7	
Republic of Korea	23.3		11.6	
Thailand	34.3		-1.3	
Capital account balance, per cent of GDP				
Malaysia	-6.0		-7.2	
Republic of Korea	-4.4		-4.8	
Thailand	-6.0		-4.9	
Unemployment rate per cent				
Malaysia	2.6		3.2	
Republic of Korea	2.6		6.8	
Thailand	0.9		4.4	

The severity of the crisis is evident from the GDP growth numbers. All three countries experienced a sharp contraction in growth over both years, particularly in 1998. Average GDP growth for the three countries was approximately – 8 per cent for 1998, a sharp contrast to the 11.5 per cent average for the seven-year crisis. The sharp fall in GDP growth was due to a significant reduction in consumption expenditure (especially in public consumption) and in gross domestic investment (GDI). GDI fell an average of 40 per cent in 1998.

The monetary sector saw an equally drastic contraction. M2 growth reduced sharply in both Malaysia and Thailand. The Republic of Korea, however, recorded an increase in M2 growth. Monetary contraction was most evident where interest rates and credit growth were concerned; three-month interbank rates, already high as part of currency defence in 1997, remained at approximately 15 per cent the subsequent year. With banks already convulsing from rising NPLs, they simply cut back on new loans. Domestic credit growth turned negative in 1998. Again the Republic of Korea was the exception, as credit growth continued, albeit at half the 1997 rates.

The sharply contractionary policies, both fiscal and monetary, were essentially unavailable. They were aimed at currency stabilization and restoring confidence. The earlier-mentioned capital outflows are evident when the capital account balance as a percentage of GDP is examined. All three countries show negative balances for both years, implying net capital outflows. Interestingly, Malaysia has the highest negative balance as a percentage of GDP. Table A9, shows the portfolio investment flows in billions of United States dollars. Once again it is Malaysia that appears to have had the highest outflows. In fact, Malaysia continued with negative portfolio flows in every subsequent year. The unemployment rate, an indicator of the pain and social cost to the economy, shows a rise in all three countries, the steepest increase being for the Republic of Korea. Still, given the extent of the crisis, these unemployment numbers are surprisingly tame. With a 6.8 per cent unemployment rate at the depth of the crisis (table A10), and a low inflation environment, the social cost does not appear to have been too drastic. This is especially so, when considering the fact that most countries have higher unemployment even in normal times. Overall, as figure 1 shows, the period of the crisis, effectively about four quarters, was sharp but short.

III. POST-CRISIS RECOVERY

Policies to deal with the crisis were mainly contractionary in effect if not by design. They were aimed at stabilization after the crisis. This stage lasted from about the third quarter of 1997 to approximately the third quarter of 1998. With some degree of stabilization in place a second stage of pro-growth policies were put in place. Here the policies were a reversal of the earlier ones and were markedly expansionary.

If the depth and speed of the downturn were surprising, the sharp and quick recovery was equally surprising. By about the second quarter of 1999, real GDP growth was positive for all three countries. Strong growth in the global economy in 1999 and 2000 helped in no small measure. With all three countries registering positive growth in every subsequent year, the recovery was real. By far the strongest recovery was that of the Republic of Korea. The growth numbers in table A11 and their graphical presentation in figure 1 show a decline and recovery pattern that appears the same for all three countries. Yet, this masks two key differences among the countries. The first was the very different Government policy stances to the crisis and second, the vastly different growth drivers fuelling the recovery.

Figure 1. Real GDP growth (per cent)
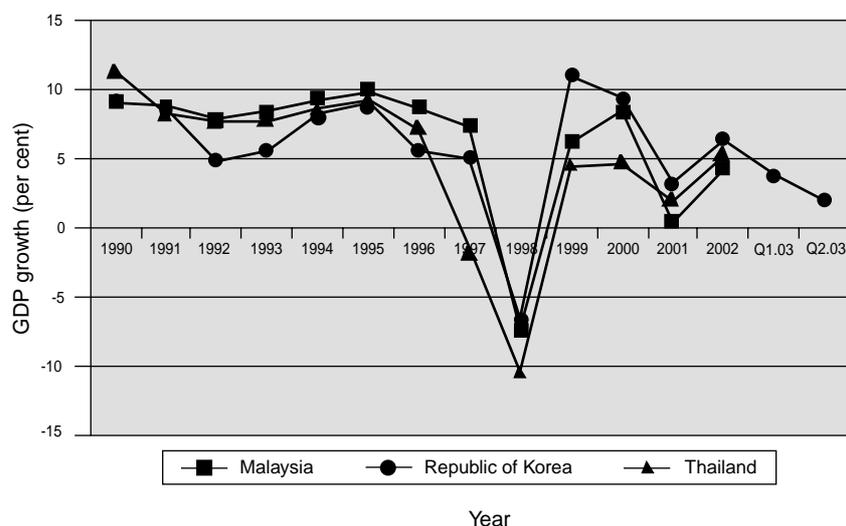
Different policy stances

Though the macroeconomic policies undertaken to counter the crisis were similar, the policy reaction was different. Faced with large capital outflows and a potential implosion of their domestic economies, the crisis countries had to either put a stop to further outflows or seek new inflows to avoid collapse. It is here that vastly different paths were taken. Malaysia chose to impose capital controls and peg its currency, while both Thailand and the Republic of Korea chose the route of IMF financing. Given the immensity of the crisis, the IMF put together large official

financing packages. These amounted to a total of US$ 58 billion for the Republic of Korea, $17 billion for Thailand and $36 billion for Indonesia. The IMF packages had three components: (a) official financing, (b) requirements for structural reform and (c) new macroeconomic policies. As was seen in the previous section, despite these different paths, the macroeconomic policies to counter the crisis were largely the same.

Different growth drivers

While, on the surface, the recovery appears largely similar for all three countries, a deeper analysis of the data points to quite different growth drivers. These differences are most obvious when comparing Malaysian and Republic of Korea data. Malaysia's recovery appears to have been fueled by Government consumption and very strong export performance; the Republic of Korea's recovery appears much more broad-based with less reliance on Government expenditure.

In examining real sector variables of tables A12 to A15, which show private and public consumption, gross domestic investment and foreign direct investment, the differences are glaring. While Malaysia has the highest public sector consumption for 1999 and subsequent years, the Republic of Korea has the highest private sector consumption numbers. Table A12 confirms this. The Government budget balance has been negative since 1998 for Malaysia and continues to grow larger as a proportion of GDP. The Republic of Korea's budget balance, on the other hand, has been positive since 2000. The GDI and FDI numbers show both a sharp increase in 1999 and strong subsequent performance for the Republic of Korea. The portfolio investment data in table A9 show a similar picture. While strongly positive for the Republic of Korea, Malaysia and Thailand experienced portfolio outflows in each subsequent year.

The monetary sector data reinforce the differences between the two countries. Despite sharply reduced interest rates (three-month interbank rate shown in table A16), growth in bank credit to the private sector and overall domestic credit growth (tables A17 and A18) remain anaemic for Malaysia but are strongly positive for the Republic of Korea. Performance in the external sector as shown in the current account balance tells a different story. The current account, which was in deficit for all three countries every year before 1997, turns positive (table A1). This reversal is most prominent for Malaysia, testimony to the very strong export performance on the back of an undervalued currency.

Unemployment, NPLs and foreign reserves

We examine three other variables, the unemployment rate, NPL and gross international reserves, to compare the relative recovery in our sample countries. Table A10 shows the annual percentage unemployment rate. In 1998, the Republic of Korea's unemployment rate of 6.8 per cent was the highest and more than twice

Malaysia's rate. By 2002, however, both the Republic of Korea and Thailand had unemployment rates lower than Malaysia's. Despite the recovery, Malaysia's unemployment appeared to have grown marginally higher. NPLs, seen as a barometer of banking sector recovery, are lowest for the Republic of Korea. At 2.2 per cent of total commercial bank loans, the Republic of Korea's NPLs[6] were barely a quarter Malaysia's rate of 9.2 per cent and Thailand's 15.9 per cent. The Republic of Korea's better relative performance, however, is most evident in the build-up of gross international reserves. Measured in billions of United States dollars, table A8 shows such reserves to be marginally lower than Malaysia's in 1997. As at the end of 2002, however, the Republic of Korea's reserves were almost four times those of Malaysia.

Structural reforms

Since leveraging was at the heart of the crisis, the main aim of structural reforms in all three countries was deleveraging. This was carried out in two steps: the first, to clean up the mess from the crisis and the second, to strengthen the cleaned out structure that remained. The first step involved the intervention by way of capital infusion to resuscitate viable institutions while closing down the unviable ones. These are standard IMF procedures and were therefore applied in Thailand and the Republic of Korea. Malaysia differed, in that it was absorbing rather than closing down weak entities. Absorption was done by means of mergers/acquisition. The second step of strengthening the system was fairly similar in all three countries.

Since there was a twin crisis, the structural reforms were aimed at both the corporate and banking sectors. In Malaysia, for example, three key institutions were established to initiate the reforms. There were the Corporate Debt Restructuring Corporation (CDRC), Danaharta and Danamodal. While the first two had a role in both steps of the structural reforms, Danamodal was intended only for the first step. Its role was to provide the capital injection needed to resuscitate the weaker banks that were on the verge of collapsing. Capital was provided in exchange for an equity stake. In Thailand and the Republic of Korea this task was undertaken directly by the central banks. Malaysia's CDRC was tasked with working out the problems of the heavily indebted firms. This was done largely through rescheduling of debt, some asset sales and acquisitions. Since most of Malaysia's heavily indebted firms had little foreign currency denominated loans, relative to the other two countries, CDRC's work of having to work with the local lenders was much easier.

Danaharta was the classic asset management company (AMC). Its counterparts in the Republic of Korea and Thailand were the Korean Asset Management Co. (KAMCO) and the Thai Asset Management Co. (TAMC). The AMCs were tasked

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[6] The Republic of Korea's much smaller percentage is also reflective of the much faster growth in bank credit in the post-crisis period.

with relieving the banking sector of NPLs by carving out the bad loans. This was to be done by purchasing problem loans from banks, repackaging/inventorying them until they could be sold, usually by public tender/auction.

Relative to the other two countries, Malaysia's Danaharta has probably been the most effective. Early changes in legislation to give the agency legislative muscle went a long way in enabling Danaharta to move quickly to a resolution. At the other extreme is TAMC. Lacking legislative backing, the Thai AMC was left to negotiate with banks on a voluntary basis, thereby making it much less successful. As such, inclusive of assets still held by TAMC, the NPL ratio for Thailand is still around 18 per cent. For the Republic of Korea and Malaysia, even when assets held by their AMCs are included, the NPL ratio is 8 per cent and 9.6 per cent respectively. The Republic of Korea's ratio is smaller due to the much faster growth in domestic credit in the post-crisis period. If expected recovery rates are an indicator of the efficiency of an AMC, Malaysia's Danaharta has outpaced the others with a 56 per cent recovery rate. This compares to KAMCO's 47 per cent and TAMC's 45 per cent.

In addition to AMCs, the banking sector in all three countries underwent major restructuring. Weaker banks were merged or allowed to be acquired by stronger ones. In Thailand and the Republic of Korea, foreign acquisition or foreign equity participation in domestic banks was made possible. This was in line with IMF policies to do away with weak banks. In Malaysia, a wave of central bank orchestrated mergers led from 37 commercial banks before 1997 to 10 currently.

IV.   WHAT CAN WE LEARN?

In identifying the lessons that we can learn from the crisis and recovery, we begin with a synopsis of our analysis thus far. A number of commonalities are apparent. In the period leading to the crisis, there clearly were structural weaknesses and vulnerabilities in all three countries. These structural problems were very much in line with Krugman (1979). The hypothesis that this was a self-fulfilling crisis (Sachs and others, 1996), implying that a previous degree of misbehaviour is also applicable.

The key commonality across all three countries is the similarity in growth patterns during the 13-year period of this study. All three had very impressive growth pre-crisis, were hit just as hard during the crisis and had an equally impressive recovery. The reason for this is obvious: all three countries had similar macroeconomic and structural reform policies. This is true, despite Malaysian Government rhetoric that it was following an unorthodox path, whereas the Republic of Korea and Thailand were following orthodox IMF style policies. Malaysia's unorthodox package appears very similar to the IMF package. What was dissimilar were the capital controls and currency peg announced on 1 September 1998. This begs the question, how much more did the capital controls and peg really help Malaysia? Based on our analysis thus far, one would be hard pressed to show any added advantage from these policies. These

policies probably had more to do with the subsequent political problems in Malaysia than with any economic rationale. The reputational cost did not lead to a better payoff in economic terms. To be sure, Malaysia has seen fewer bankruptcies and an attendant increase in unemployment during the crisis. While this would have reduced the pain at the time, it does not help with long-term competitiveness.

It was classic Keynesian style fiscal expansion and export growth benefiting from an undervalued currency that led to recovery. Including fiscal 2003, Malaysia would have had its sixth consecutive year of budget deficit (table A19), much higher than Thailand's and in sharp contrast to the Republic of Korea's budget surpluses. Neither of these two growth drivers are sustainable over the long term. Private consumption, domestic investment, credit growth and foreign capital inflows must recover if growth is to be sustainable.

While Thailand's recovery and growth resembles that of Malaysia, the Republic of Korea has outpaced both. In addition to faster GDP growth, the Republic of Korea which followed the orthodox IMF package has done better when measured against factors such as unemployment rate, NPLs, international reserves, stock market capitalization[7] and overall breadth of recovery.

So, what can we learn from the experience of these countries? A number of useful lessons can be deduced. The first and most obvious lesson is that vulnerability should be avoided. This means that one has to be watchful about the build-up of leveraged debt financing. Beyond a low threshold, the financing of such debt with foreign currency exposures must be avoided. Since the need for debt and external financing arises from the need to grow at any cost, Governments must reorientate growth strategies. A slower but better quality growth strategy makes sense, one that has a better absorption rate of domestic resources and higher added value.

The sequencing of financial liberalization is certainly important. As was seen in the case of Thailand and the Republic of Korea, inappropriate sequencing can be a major cause of vulnerability. In this regard, unless the banking system is strong and globally competitive, domestic banks should not be allowed to take on huge foreign currency exposures. Also, building a strong banking system would not be possible under the current protectionist mode. Banking systems should be subject to competition and market discipline. Capital account liberalization while simultaneously protecting the domestic banking system may lead to the worst of both worlds.

Developing less bank-reliant financial systems would also be helpful. In all three crisis countries the financial sector was heavily bank-dependent. The problem with this is that risks get concentrated. Risks will be dissipated if alternative financing

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[7]   In 1996, market capitalization in Malaysia and the Republic of Korea was US$ 319 billion and US$ 139 billion respectively. In 2002, however, Malaysia's capitalization had fallen to US$ 127 billion whereas the Republic of Korea's had risen to US$ 219 billion.

mechanisms are enhanced. For example, attention should be paid to building better bond and money markets.

The experience of the three countries shows the importance of avoiding exchange rate misalignment. Pegged or quasi-pegged systems are incompatible with independent monetary policies in the presence of free capital flows. Central banks, as we saw, often ignore this incompatibility, with disastrous consequences. Quasi-pegged systems also lull the private sector into taking on unhedged foreign exchange exposures. Currency risk management becomes the obligation of the central bank. This again is unsustainable over the long term. There is a need to "privatize" risk management by developing the markets and tools for hedging. Central banks should also pay close attention to the ratio of useable foreign reserves to short-term obligations. A low ratio is a sure sign of vulnerability.

In addition to the obvious lessons above, there are three implicit lessons to be learned from the experience. The first is that the old Government-directed industrialization models may no longer be workable. The worst culprits in all three countries have been the State-connected conglomerates that were the result of such industrialization. It is these entities that had taken on the highest debt and foreign currency exposures.

The second implicit lesson is that temporary capital controls may not be as bad as previously thought. Malaysia's capital controls were highly selective and effectively short in duration. Today most of the controls have been relaxed. What hurt most was the one-year moratorium on capital outflows. While most economists have little objection to temporary capital controls, especially on capital inflows, the moratorium on outflows was highly controversial. Many of the dire predictions made about the controls have not, however, been borne out. While it is still early to assess the long-term consequences of the policy, going by our post-crisis data, Malaysia has not been worse off. However, we concluded earlier that despite the controversial policies Malaysia's performance does not show any added advantage. Thus, one can only conclude that if Malaysia has not been better off with these policies, it is not worse off either.

A final implicit lesson, perhaps even an explicit one, is that IMF policies have worked. One could always argue about the harshness of IMF policies and their social impact. The fact remains that both Thailand and the Republic of Korea have snapped back into a strong recovery. The sharp V-shaped recovery following IMF intervention is not new nor peculiar to these two countries. Mexico is also a case in point. Following a similar currency crisis and capital flight, Mexico went into a tailspin in December 1994. However, by the end of 1996 the economy had almost fully recovered. Mexico too had been on an IMF package. A combination of external assistance, greater policy-making discipline and improved competitiveness have been the key elements in post-crisis recovery in both Mexico and East Asia.

APPENDIX

Table A1. Current account balance as per cent of GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia	-2.1	-8.5	-3.7	-4.5	-6.1	-9.8	-4.8	-5.2	13.2	15.9	9.4	8.3	7.6
Republic of Korea	-0.8	-2.8	-1.3	0.3	-1	-1.7	-4.4	-1.7	12.7	6	2.7	1.9	1.3
Thailand	-8.4	-9	-8	-4.9	-5.4	-7.9	-7.9	-2	12.8	10.2	7.6	5.4	6

Table A2. Growth of merchandise exports (US$ f.o.b., per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Q1.03	Q2.03
Malaysia	17.4	18.7	9.7	17	27	20.2	6.5	12.1	29.7	12.2	16.1	-10	6		
Republic of Korea	4.2	10.5	6.6	7.3	16.8	30.3	3.7	5	-2.8	8.6	19.9	-13	8	19.8	12
Thailand	14.2	23	13.6	13.5	21.6	23.6	0.4	27.9	24.4	-1.4	25.2	4.3	2.2		

Table A3. Growth of merchandise imports (US$ c.i.f., per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Q1.03	Q2.03
Malaysia	30	27.4	3.6	15.7	32.8	24.6	1.5	12	3.3	8.9	25.3	-10	8.3		
Republic of Korea	13.6	16.7	0.3	2.5	22.1	32	11.3	-3.8	-35.5	28.4	34	-12	7.8	19.1	8.5
Thailand	27.4	13.6	7.8	12.9	17.4	28.8	3.9	5	-7.8	7.5	30.8	10.5	0.8		

Table A4. Savings-investment gap (as per cent of GDP)

	1990	1991	1992	1993	1994	1995	1996	AVERAGE
Thailand	(7.6)	(6.4)	(4.9)	(4.5)	(5.0)	(7.5)	(7.7)	(6.2)
Republic of Korea	(1.0)	(2.5)	(1.5)	(0.8)	(1.1)	(1.5)	(3.5)	(1.7)
Malaysia	(3.3)	(8.0)	(4.7)	(5.3)	(7.3)	(9.5)	(5.5)	(6.2)

Source: IMF: World Econ. & Fin. Survey

Table A5. Total foreign loans (US$ million)

	Dec-1994	Dec-1995	Jun-1996	Dec-1996	Jun-1996
Thailand	43 879	62 818	69 409	70 147	69 382
Republic of Korea	56 599	77 528	88 027	99 953	103 432
Malaysia	13 493	16 781	20 100	22 234	28 820

Source: BIS, Business Times

Table A6. Total foreign loans as per cent of GDP

	Dec-1994	*Dec-1995*	*Dec-1996*
Thailand	30.4	37.4	38.7
Republic of Korea	18.6	22.1	25.7
Malaysia	18.6	19.2	22.4

Author's computation

Table A7. Financial position (as at December 1996)

	Short-term loans (US$ Million)	*Short-term loans as per cent of total foreign loans*	*Foreign loans as per cent of reserves*	*Short-term loans as per cent of reserves*
Thailand	45 733	65.20	181	118
Republic of Korea	67 468	67.50	300	202.50
Malaysia	12 451	56.00	83.90	46.90

Table A8. Gross international reserves (US$ billion)

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*Q1.03*	*Q2.03*
Malaysia	9.87	11	17.4	37.4	25.5	23.9	27.1	20.9	25.7	30.7	29.6	30.5	34.3		
Republic of Korea	14.8	13.7	17.2	20.3	25.7	32.7	34.1	20.41	52	74.1	96.2	102	121		132
Thailand	14.3	18.4	21.2	25.4	30.3	37	38.7	26.89	29.5	34.8	32.7	33	38.9		

Table A9. Portfolio investment (US$ billion)

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*
Malaysia	-1.05				6.12	11.6	15.2	-4.39	-6.87	-1.2	-2.47	-0.7	-1.7
Republic of Korea	0.08	3.05	5.8	10	6.12	11.6	15.2	14.3	-1.88	8.68	12	6.58	0.18
Thailand	0.46			5	1.69	4.01	2.88	4.37	0.33	-0.1	-0.71	-1.2	-2.3

Table A10. Unemployment rate (per cent)

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*Q1.03*	*Q2.03*
Malaysia	5.1	4.3	3.7	3	2.9	2.8	2.5	2.6	3.2	3.4	3.1	3.7	3.5	3.8	n.a.
Republic of Korea	2.5	2.3	2.4	2.8	2.4	2	2	2.6	6.8	6.3	4.1	3.7	3	3.6	3.3
Thailand	2.2	2.7	1.4	1.5	1.3	1.1	1.1	0.9	4.4	4.2	3.6	3.3	2.4	2.9	2.5

Table A11. Real GDP growth (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Q1.03	Q2.03
Malaysia	9	8.7	7.8	8.3	9.2	9.8	8.6	7.3	-7.4	6.1	8.3	0.4	4.2		
Republic of Korea	9	8.5	4.8	5.5	8.1	8.9	5.5	5	-6.7	10.9	9.3	3.1	6.3	3.7	1.9
Thailand	11.2	8.1	7.6	7.7	8.5	9.2	7.1	-1.4	-10.5	4.4	4.6	1.9	5.2		1.9

Table A12. Private consumption expenditure growth (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MALAYSIA	11.9	14.3	7.5	9.8	13.2	11.7	9.6	9.3	-10.2	2.9	12.5	2.8	4.2
Republic of Korea	9.6	21.1	14.8	14	18.7	9.6	13.2	9.1	-11.7	11	7.9	4.7	6.8
Thailand	12.9	11.6	12.5	11.7	13.1	7.8	11.6	4.4	-11.5	4.3	4.9	3.7	4.7

Table A13. Public consumption expenditure growth (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia	5.9	12.7	5.9	10.9	10.2	6.1	2.4	8.9	-8.9	17.1	3	17.6	13.8
Republic of Korea	7.4	21.3	16.8	10.4	12.3	0.8	-11	40.6	-0.4	1.3	0.1	1.3	2.9
Thailand	6.9	12.5	21.3	12.8	12.2	5.2	13.3	1.6	3.9	3.1	2.6	2.9	0.5

Table A14. Foreign direct investment (US$ billion)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia	2.33					6.64		5.56	2.71	2.47	1.76	0.29	1.3
Republic of Korea	-0.26	-0.3	-0.43	-0.75	-1.7	-1.8	-2.3	-1.61	0.67	5.14	4.29	1.11	-0.7
Thailand	2.4			1.57	0.88	1.18	1.41	3.3	7.36	5.74	3.37	3.65	0.96

Table A15. Gross domestic investment growth (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Q1.03	Q2.03
Malaysia								12	-44	-4	28	-9	9	0.1	-2.3
Republic of Korea		15	-1	3	14	11	9	-8	-38	30	11	-2	4	7	2
Thailand					11	14	5	-22	-51	9	11	2	5	10	

Table A16. Three-month interbank lending rate (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia								9.0	11.5	4	3.2	3.2	3
Republic of Korea								14.1	14.6	6.8	7.1	5.2	4.8
Thailand								17	16.8	4.9	4	3.1	2.1

Table A17. Growth in real bank credit to private sector (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia		16	6	7	10	27	22	20	-2	-1	5	3	5
Republic of Korea		12	7	6	17	11	14	12	-6	17	16	13	21
Thailand		16	17	18	24	16	9	15	-13	-5	-11	-7	6

Table A18. Domestic credit growth (per cent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia	18	18.5	16.6	12.3	14.8	29.5	31.2	29.3	-2.7	0.3	9.6	-6.9	8.9
Republic of Korea	25	22.4	11.5	12.8	18.5	14.6	19.5	23.3	11.6	17.4	16.3		
Thailand	26.8	15.5	18	22.7	29.4	23	14	34.5	-1.3	-4.2	-7.5		

Table A19. Government budget balance as per cent of GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malaysia	-2.9	-2	-0.8	0.2	2.3	0.8	0.7	2.4	-1.8	-3.2	-5.8	-5.5	-5.6
Republic of Korea	-0.7	-1.6	-0.5	0.6	0.3	0.3	0.3	-1.5	-4.2	-2.7	1.3	1.3	3.8
Thailand	4.9	4	2.6	1.9	2.7	3	0.9	-1.5	-2.8	-3.4	-2.2	-2.4	-1.4

Table A9. Portfolio investment (US$ billion)
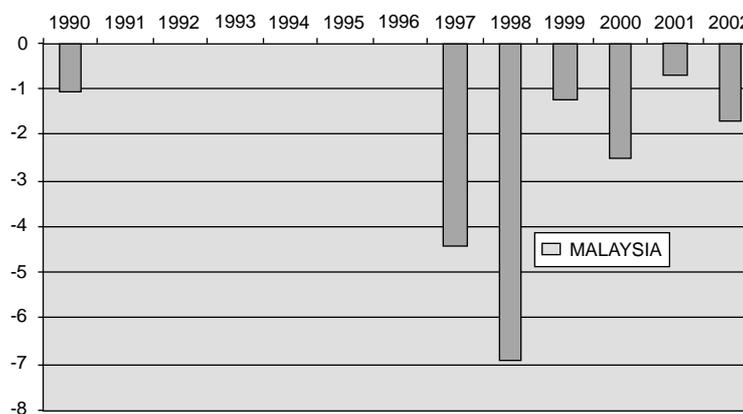
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