

# **FDI in Crisis and Recovery: Lessons from the 1997-98 Asian Crisis**

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*Abstract:* Is foreign direct investment (FDI) more resilient at the onset of an economic crisis and the subsequent economic collapse in a given host country compared to other forms of foreign capital inflows? Are affiliates of multinational enterprises in a crisis-hit country better equipped to withstand a crisis and to aid the recovery process by readjusting their investment, production and sales strategies compared to local firms? This paper examines these and related issues in the context of the 1997-98 economic crisis in East Asia. The paper starts with a scene setting surveys of FDI policy and the overall investment climate in the five crisis-hit countries (Thailand, Malaysia, Indonesia, Korea and the Philippines), with emphasis on changes in investment policy introduced as part of the crisis management package. It then looks at the behaviour of FDI compared to other forms of capital flow after the onset of the crisis, followed by an examination of trends in FDI flows in the recovery process and the comparative performance of affiliates of multinational enterprises (MNEs) in economic adjustment. The findings suggest that FDI was indeed a relatively stable source of foreign capital in the crisis context and that MNE affiliates were instrumental in ameliorating the severity of economic collapse and facilitating the recovery process.

*Key words::* East Asia, financial crisis, foreign direct investment, capital flows

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## **Introduction**

The string of economic crises in emerging-market economies in the 1990s and the global reverberations that followed them have added new impetus to the debate on how to reconcile international capital mobility with domestic economic stability and developmental priorities in investment receiving developing countries. The unqualified enthusiasm for promoting capital flows to aid economic advancement in these countries has given way to a new emphasis on finding ways and means of reconciling international capital mobility with domestic economic stability and developmental priorities. At the heart of this new policy focus is a renewed emphasis on the conventional wisdom about the need to treat foreign direct investment (FDI) flows separately from other forms of capital flows (mostly hot money) in designing national policies to monitor capital flows.<sup>1</sup>

This paper aims to inform this debate by examining the behaviour of FDI flows compared to other major forms of capital flows in the context of the 1997-98 East Asian crisis. The experiences of the five countries in the region which were directly affected by the crisis – Thailand, Indonesia, Malaysia, the Republic of Korea (henceforth referred to as Korea) and the Philippines – are examined from a comparative perspective, focusing on the following issues: Have FDI flows been more stable relative to the other forms of capital flows? What has been the contribution of FDI firms in the adjustment process? What has been the impact of crisis management policies on future flows? Relating to the latter point, has Malaysia's unique approach to crisis management placed the country in a disadvantageous position compared to the other countries? These issues have not yet been

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\* This paper has immensely benefited from comments by Bart van Ark (the discussant) and the other participants of the Session on Financial Institutions and Economic Crisis in Asia, XIII International Economic History Congress (Buenos Aires, July 2002).

<sup>1</sup> For useful critical assessments of the debate, with extensive listings of the related literature see Eichengreen (2002) and Lamfalussy (2000).

adequately addressed in the already-sizable literature on the East Asian crisis. The discussion has primarily been limited to journalistic commentaries, which have come up with conflicting inferences based on circumstantial evidence.

Unlike some other contributions to this AEHR issue, no attempt is made here to compare the experiences of the Asian countries in the 1997-98 and 1929-31 crises. While paucity of data anyway preclude a systematic comparative analysis, the focus on the former period is justified by the fact that the behaviour of international capital in the two crises was fundamentally different. The 1997-98 crisis was a modern-style *capital account crisis* characterised by a boom of international capital inflows followed by a sudden withdrawal of such funds because of loss of confidence by investors in the country's currency. By contrast, the worldwide financial and macroeconomic crisis of 1929-31 originated in the West, and was then propagated to East Asian economies and other countries in the colonial periphery primarily (if not solely) through trade linkages (Kindleberger, 1987, 1996). In other words, from the perspective of the countries in the periphery, it was fundamentally a conventional *current account crisis*. There was no evidence of reversal of foreign investment in these countries in the wake of economic collapse (Nurkse 1954, Jenks 1954).<sup>2</sup> Interestingly, there was some capital *inflow* to these countries during the crisis from the countries at the Centre (mostly Great Britain) through gold trade. Precarious economic conditions in the West produced a substantial hoarding demand for gold (the traditional medium in which saving was held in those days) resulting in a steep rise in the price of gold in terms of the currencies in the East. Thus, a large part of the gold held by hoarders in the East passed into the hands of hoarders in the West and the reversed capital flows (mostly in the form of pound sterling) facilitated balance of payments adjustment in the former countries.

The paper is organized as follows. The next section discusses the *a priori* reasoning on differences between FDI and other forms of foreign capital flows in the

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<sup>2</sup> Much (perhaps more less than three-quarters) of the British colonial investment took the form of long term loans to governments and public-utility investment. The rest included direct investment in banking, insurance and manufacturing as well as investments directly in raw-material extraction (Nurkse, 1994, 747). Unlike in the 1990s, there were little 'hot money' movements (eg. private bank lending and investment in stocks and shares).

context of an international financial crisis. Two sections then examine the behaviour of FDI flows compared to other forms of capital flows in the wake of the crisis and in the recovery process, and the role of the affiliates of multinational enterprises (MNEs) in adjustment to the crisis. The final section contains some concluding remarks.

## **Analytical Context**

FDI originates from the decision of an MNE to enter into international production - to relocate part of its activities in a selected host country. This decision is underpinned by the desire to reap benefits from its specific advantages (in the form of technology, managerial expertise, marketing know-how etc.), which *cannot be effectively leased or purchased through* 'arms length' market dealings with unrelated firms. In other words, FDI is a flow of long-term capital based on long-term profit considerations involved in international production (Caves 1996). Thus it can be hypothesized that FDI tends to be less responsive to aberrations in general economic conditions in host countries.

Viewed from this perspective, one would expect FDI inflows to be much more resilient than other forms of private capital— portfolio investment, banks lending and other related forms of foreign capital (broadly known as 'financial investment') — in the wake of an international financial crisis. Financial investment essentially involves acquisition of financial assets rather than direct involvement in international production. Returns from such investment depends on variables such as the exchange rate, interest rates and share prices, which are usually subject to short-term fluctuations. Moreover these assets can be easily disposed of at short notice (of course at a cost).<sup>3</sup>

A financial crisis generates both positive and negative impacts on the profitability of MNE operation in the crisis-affected economy. On the positive side, currency collapse can have a positive impact on FDI in at least three different ways. First, large exchange rate depreciations reduces domestic production costs and asset values, making foreign

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<sup>3</sup> A large number of studies investigating the determinants (or early warning indicators) of currency crises have found that a higher ratio of FDI to total capital flows normally reduces vulnerability of a country to exodus of capital (Radelet and Sachs 1998, Frankel and Rose 1996, Kim and Hwang 2000, Lipsey 2001).

investment more profitable. Since depreciation of the exchange rate of host country currencies makes the firms wealthier in terms of their purchasing power in within the country, investment can increase. Second, the cost of investment may also be significantly reduced by falling asset prices because of the contraction in domestic demand propelled by the crisis. Third, revisions to FDI laws as part of the crisis management package in crisis affected countries can open up new opportunities for cross-border mergers and acquisitions ('fire-sale' investment, *a la* Krugman (2001)). On the negative side, domestic demand contraction caused by output collapse and lowered immediate growth prospects can have a negative effect on domestic market-oriented foreign investment.

There are reasons to believe that significant involvement of MNE affiliates (which is the tangible reflection of FDI inflow) in the domestic economy of a given country can act as a facilitator of the adjustment process following a financial crisis (or other economic disruption caused by an external economic shock) (Blomstrom and Lipsey 1993, Lipsey 2000 and 2001). MNE affiliates have already set up international markets to supplement external markets. They also presumably have greater access than local firms to market information, distribution channels and international marketing skills. Because of these reasons, affiliates of MNEs should find it easier to switch markets than other firms in response to collapse of domestic demand as well as to benefit from newly-gained competitiveness from exchange rate depreciation. On the supply side, MNE affiliates are also presumably better equipped to face domestic credit contraction (the credit crunch) that is usually followed by the exchange rate collapse and the exodus of short-term capital in the wake of a financial crisis. When domestic bank credit dries up and/or the cost of credit increases in the crisis context, it is still possible for these firms to obtain financing in international capital markets, or to receive credit from affiliated firms. Local firms do not have that advantage, although large exporting firms might still find it possible to obtain financing in the international capital markets, or receive credit from upstream firms (Krugger and Tornell 1999, p 33). Thanks to their parent firms, unlike purely domestically owned firms, MNE affiliates in crisis-affected countries do not generally suffer lowered credit ratings.

### **Capital Flows During the Crisis**

An important development in the global economy in 1990s was the enormous increase in private capital flows to emerging markets (developing countries + transition economies). Net private capital flows to the emerging markets (developing countries and transition economies) increased from an annual average of less the US \$10 billion in the latter half of 1980s to nearly US \$200 billion by the mid-1990s.<sup>4</sup> Korea, Malaysia, Thailand and Indonesia were among the eight countries, which received more than \$15 billion in net long term private capital inflows during this period. Flows to the Philippines continued to remain low by international standards, but they increased from less than \$10 million to over \$5 billion by the mid-1990s. Total net inflow to the five countries increased sharply from an average annual level of \$2.5 billion in the second half of 1980s to \$ 78 billion in 1996. In that year, net capital flows relative to GDP stood a 10% in the Philippines, 9.2% in Thailand, 6.9% in Malaysia, 5.4% Indonesia and 4.7% in Korea.

What have been the implications of the onset of the financial crisis in 1997 for the process of global integration through capital mobility of these countries? Has FDI behaved differently from other forms of capital flows in the crisis context? The remainder of this section examines these issues using Tables 1 and 2, and Figure 1. It is important to note that the FDI series reported in Table 1 and Figure 1 provide only partial coverage of FDI in these countries. According to the standard definition, FDI has three components; equity capital, Intercompany debt and reinvested earnings. As in many other countries, data series on FDI in these countries (reported as part of the balance of payments accounts on which Table 1 and Figures 1 are based) capture only equity capital and inter-company debt. The omission of the third component (retained earnings) can lead to a considerable underestimation of the actual magnitude of FDI in a given host country depending on the history of MNE involvement and the source country profile of FDI (Lipsey 2000).<sup>5</sup> For this reason, we also make use of data on US FDI compiled from the US Bureau of

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<sup>4</sup> Data reported in this section, unless otherwise stated, come from the standard IMF sources, in particular various issues of *International Financial Statistics* and *World Economic Outlook*.

<sup>5</sup> There is evidence that the component “retained earnings” in FDI is positively related with the age of operation of firms in a given country, and US MNEs have a general tendency to rely more on retained earnings for investment expansion compared to MNEs from other countries (Lipsey 2000).

Economic Analysis reporting system on US overseas investment (Table 2) to examine the sensitivity of inferences. This is the only available source of time series data on FDI encompassing all three components for the period under study.

**Table 1 about here**

**Figure 1 about here**

Total capital inflows to the five crisis-hit countries reversed from a net inflow of \$6.8 in 1996 to a net outflow of \$25.5 billion in 1997 and 16.0 billion in 1998 (Table 1). Total net inflows started to recover from about the third quarter of 1998, but the annual figures remained well below the pre-crisis level in 1999 and 2000. At the individual country level, the sharpest reversal in net inflow was experienced by Thailand with recorded negative inflows for four consecutive years from 1997. The total net outflow of capital from Thailand during the four years from 1997 to 2000 amounted to \$45 billion or almost half of the net inflows during the seven boom years from 1990-96. Capital flows to Indonesia reversed from a net inflow of over \$10 billion in 1996 to a net outflow of \$1.1 billion in 1997 and the value of net outflows continued to widen in the ensuing years, reaching \$8.0 billion in 2000. Net inflows to Korea contracted by \$24.5 billion between 1996 and 1977 but began to recover much quicker (from about the first quarter of 1998) than in the other countries. Malaysia and the Philippines, too, suffered massive contractions in capital inflows (\$12.0 billion in Malaysia and \$8.8 billion in the Philippines between 1996 and 1997) but total net inflows remained positive throughout.

The behaviour of FDI inflows to these countries in the context of the crisis was strikingly different from what we observe for total net flows. In 1999, there was an annual contraction in total net FDI inflows to the five countries of about 15% (from \$13.9 billion in 1996 to 11.2 billion in 1997). But these flows recovered swiftly to the pre-crisis trend levels by 1998. It is therefore clear that the massive contraction of total capital flows to these countries originated in the other two components of foreign capital — portfolio flows and bank credit. Total net FDI inflow to the five countries during 1997 and 1998 (\$25.7 billion) was only 0.4% lower than the total during the two

pre-crisis years (1995 and 1996) (\$25.6 billion). A similar comparison for portfolio capital and bank credit (including unclassified flows)<sup>6</sup> reveals massive contractions of 101.2% (from \$55.7 billion to -0.7 billion) and 2201 (from \$55.1 billion to -66.4 billion) respectively. Interestingly, a comparison among the five countries suggests an inverse relationship between the share of FDI in total net flows in the lead-up to the crisis and the degree of contraction in net inflows in the aftermath of the crisis.<sup>7</sup>

Following the onset of the crisis, there was a significant increase in FDI coming in the form of cross-border mergers and acquisitions (M&As, or 'fire-sale FDI' *a la* Krugman 2001) to all five countries (Table 2). Total approved (announced) average annual M&A in the five countries recorded a 120% increase between 1990-1996 and 1997-2001 (from \$4.5 to 11.1 billion). The individual country increases were, Indonesia, 172%, Korea 834%, Malaysia 87%, Philippines 142% and Thailand 269%.<sup>8</sup>

## Table 2 about here

In Korea the crisis-driven slowdown in net FDI inflows lasted for only about two quarters (Figure 1). From then on these flows started to increase significantly as investors began to respond to the new FDI liberalization initiatives and to take part in takeover and acquisition activities.<sup>9</sup> Total net flows in 1999 were almost 20% higher than the levels recorded in 1996. It is important to note that the post-crisis increase in net FDI flows in Korea was somewhat aided by decline in outward investment by Korean companies owing to their domestic financial trouble. However the overall post crisis increases in net

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<sup>6</sup> The data sources used here do not permit precise separation of 'other flows' from bank credit. But based on tentative estimates derived from other sources (in particular IMF, World Economic Outlook) for all emerging market economies, we believe that more than 80% of the values reported under 'Bank credit and other' item in Table 1 consist of bank credit.

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The relevant figures computed from Table 1 are  
 Indonesia Korea Malaysia Philippines Thailand Share of FDI in total inflows during 1995-96 (%)  
 46.5-12.6 55.6-17.8 61.7-8.3  
 Contraction in net capital inflows during 1997-98 over 1995-96 (%)  
 -128.0-181.8 -87.0-86.9 -175.7

<sup>8</sup> Unfortunately, the available data do not permit estimation of the relative contribution of M&A to gross FDI inflows. Announced M&A figures (Table 2) are generally believed to overstates the realized (balance of payments based) FDI reported in Table 1.

<sup>9</sup> As part of policy reforms undertaken in response to the crisis all five countries liberalized their FDI regimes, resulting in a considerable policy convergence among them. For details, see Kim and Hwan (2000), Athukorala (2001) and UNCTAD (1998).



inflow are not much different from that of inward flows. In Thailand, the pickup in net FDI inflows (the pattern of which is not much different from that of inward flows, given small outward flows from the country) started from about the second quarter of 1998. In sharp contrast to the experiences of Indonesia and Korea, in Indonesia, net FDI flows continued to contract from the last quarter of 1997 (with the exception of the a mild reversal recorded in 1998) reflecting the continued deterioration in the overall investment climate.

Net FDI flows to Malaysia declined from \$7.9 billion in 1996 to \$6.0 billion in 1997 (a 24% contraction) and have remained virtually flat at that level from about mid-1998, compared to a significant increase in flows to Korea and Thailand. It could well be that the prolonged period of policy and political uncertainty following the onset of the crisis, and widespread market skepticism about the fate of the unorthodox reform package introduced in September 1998, may have played a role. However, one should be cautious in deriving inferences from a comparison of Malaysia's post-crisis FDI experience with that of Thailand and Korea for a number of reasons. First, Thailand and Korea, acquisition by foreign companies of assets or equity of domestic companies has been an important component of foreign capital inflows during this period. Despite the severity of the downturn, corporate distress was far less widespread in Malaysia than elsewhere, and there were simply less "bargain assets" for mergers and takeovers. Moreover, unlike Korea and Thailand, Malaysia did not resort to promoting acquisition and takeover by foreign companies as part of the ongoing process of corporate and banking restructuring. Second, compared to Korea and Thailand (in particular the former), Malaysia's foreign investment regime has remained much more liberal for a long time, and in some sector the presence of MNEs had already reached very high levels by the onset of the crisis. Thus the post-crisis increase in FDI in the former countries compared to Malaysia may, to a significant extent, reflect "catching-up" entry by foreign firms following the new FDI liberalization initiatives. Third, in the immediate pre-crisis years, intra-regional inflows (particularly those from Korea and Taiwan) accounted for over a third of total FDI inflow to Malaysia and these flows dwindled following the onset of the crisis.

Table 3 provides data on direct investment by US MNEs in the five countries, disaggregated by its three components — equity capital, inter-company debt and reinvested earning. The time patterns of US FDI in the five countries revealed by these data are by and large consistent with those revealed by the data of aggregate FDI (balance- of-payments based) reported in Table 1. The time patterns are much closer for Korea, Thailand and Indonesia. In Malaysia and the Philippines the decline in US FDI in the aftermaths of the crisis is much sharper than is revealed by data in Table 1. These differences may reflect both estimation errors (mostly in the data reported in Table 1) as well as differences in the behaviour of FDI flows from different countries. Interestingly, the disaggregated data in Table 1 suggest that inclusion or exclusion of reinvested earnings as part of total FDI does not seem to matter much in an inter-temporal comparison of FDI; all three constituent series seem to move in unison over time. However, the data do suggest that the widely-used balance of payments based FDI figures (which do not cover reinvested earnings) tend to significantly understate the level of FDI in a given host country. For instance reinvestment earnings accounted on average for 57% of total annual US direct investment in the five countries during 1994-2001.

**Table 3 about here**

### **The Role of MNE Affiliates in Adjustment and Recovery**

Did foreign-owned firms behave differently from domestically owned firms, in the context of the crisis? In particular, was there any uniqueness in their response to the crisis that contributed to the agility of the crisis-affected economies? A definitive analysis of this issue is not possible because of data limitations. In this section an attempt is made to piece together fragments of relevant data from various scattered sources.

Table 4 reports estimates of the relative contribution of FDI to total gross domestic investment (GDI) in the five countries. Interestingly, in Korea, Malaysia, Philippines and Thailand the FDI/GDP ratio was higher during the crisis years, compared to pre-crisis levels (Table 6). In other words, FDI has weathered the crisis far better than

domestic private investment. The important inference is that FDI can act as an effective cushion against a possible collapse in domestic investment during a crisis. This inference, however, needs to be qualified for data problems. FDI and GDI series used here come from different data systems (balance of payments accounts and national income accounts, respectively) and presumably subject to estimation errors of different magnitudes, which are also unlikely to be consistent over time.<sup>10</sup>

#### **Table 4 about here**

Lipsev (2001) examines the behaviour of affiliates of US MNEs in East Asian countries during 1995-1998 using data from the annual survey of *U.S. Direct Investment Abroad* (conducted by the US Bureau of Economic Analysis) combined with relevant host-country data. His analysis yields a number of interesting points. Exports by US manufacturing affiliates continued to rise, overall and in all the nine individual countries (China, Hong Kong, Korea, Singapore, Taiwan, Indonesia, Malaysia, Philippines and Thailand) despite a general negative growth in total exports. As a result, the share of U.S. affiliates in their host country exports, which had been rising gradually, jumped from 4.3% in 1995 to 6.4% in 1998. For the four crisis-hit countries the increase was even sharper, from 3.2% to 5.2%.

Second, as local sales declined sharply following the onset of the crisis (by 17% in all East Asia countries and 30% in the crisis five between 1997 and 1998) the affiliates of US MNEs in these countries were quick to redirect their sales from host country markets in an attempt to minimize the impact of the crisis on their overall performance. Consequently, ratio of exports to total sales of these affiliates jumped in every country except China. The largest changes were in the four crisis countries in Southeast Asia. Affiliates in Singapore, Taiwan, and China, the countries less affected by the crisis, did not

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<sup>10</sup> In particular, the FDI series captures financial flows relating to cross-border mergers and takeovers in addition to green-field FDI, but conceptually only the latter is captured in the GDI series. Moreover, as already noted FDI series cover only equity flows and inter-company debt, whereas GDI series should capture the third component of FDI (reinvested earnings) as well. In addition to these differences in the actual coverage, these series are also subject to measurement errors of different magnitudes.

have significant market switching. (Export sales ratio of affiliates in Korea remained virtually unchanged, but it is not possible to read much meaning into this figure because majority owned affiliates are not representative of overall US MNE presence in that country.)

Third, total employment in US affiliates in the five crisis countries declined at a much slower rate compared to the degree of decline recorded by total national employment in these countries. Fourth, as in the case of employment, the decline in fixed capital formation (expenditure on plant and equipment) by affiliates in 1998 in all crisis countries was far smaller than the massive contractions recorded in national fixed capital formation estimates suggesting that, despite the crisis, the U.S. firms continued to take an optimistic view about the long-run economic prospects for the region. All in all, these findings support the hypothesis that foreign-owned firms have behaved differently from domestically owned firms in their response to the crisis, aiding the adjustment process in the crisis-affected countries.

The findings of Ramstetter (2000) on the relative performance of MNE affiliates in Indonesian manufacturing following the onset of the crisis corroborate those of Lipsey (2001). Even in the depth of the crisis in 1998, MNE affiliates, particularly those with large ownership shares, were not reducing their presence in the Indonesian manufacturing. The combined total employment share of MNE affiliates in fact increased from 18.5% in 1996 to 19.1% in 1998. In an inter-industry comparison (at the three-digit ISIC level) MNE affiliates in more export oriented sectors exhibited superior performance compared to those in domestic-market oriented product sectors. In particular, the MNE-dominated machinery and equipment sector (including electronics) played a crucial role a notable recovery of manufacturing exports from Indonesia in 1999.

In Table 5, we have pieced together a data set to shed some light on the relative performance MNE affiliates in Malaysian manufacturing during the crisis. The table covers 20 three-digit industries for which the required data are available. Manufacturing performance is measured in terms of three key variables: real output, employment and real wages. For these three variables, deviation from the overall growth trend (for the entire

period 1987-2000) during the crisis years (1988-2000) was measured by fitting a least-square trend line with a slope-dummy (as explained in Note 3 to the Table). MNE presence in the manufacturing sector is measured alternatively as MNE share in total manufacturing output and employment.

### **Table 5 about here**

The data do provide support for the proposition that the MNE presence has acted as a cushion against output and employment contraction during the crisis. The MNE-dominated electronics industry, which accounts for over one third of manufacturing value added and employment, is among the 3-digit industries with the lowest measured contraction in output and employment during the crisis years. Many other industries with a higher MNE presence are also at the lower end of the ranking of industries in terms of the degree of employment and output contraction. For the 20 three-digit industries listed in the Table, the rank correlation coefficients between the MNE share in sectoral output (Column 1), and trend deviation in output and employments during the crisis (1998-2000) (Columns 5 and 6) are 0.28, and 0.24 respectively. Both are statistically significant at the 5 per cent level. Industries with greater MNE participation are also generally characterised by lower real wage compression during the crisis. The correlation coefficient between MNE share in employment and trend deviation in real wage during the crisis is 0.51, which is significant at the one percent level.

In sum the data pieced together in this section suggest that MNE affiliates were instrumental in ameliorating the severity of economic collapse and facilitating the recovery process. This finding is consistent with the available studies on the behaviour of MNE affiliates in the 1994-96 financial crisis in Mexico (Lipsey 2001) and a number of Latin American countries during the debt crisis in the early 1980s (Blomstrom and Lipsey 1993).

### **Concluding Remarks**

Contrary to some pessimistic predictions, the 1997-98 Asian financial crisis has not resulted in a major discontinuity in FDI flows to the region, apart from a modest decline in

the immediate aftermath of the crisis. The mass exodus of capital from all five countries was accounted for by foreign portfolio investment and bank credit. While the net long-term national gains from FDI inflows remain a debatable subject, the evidence harnessed in this paper does suggest that they play a useful stabilizing role in the crisis context by limiting the fall in aggregate flows and facilitating the adjustment process. MNE affiliates, both export- and domestic-oriented, but particularly the former, seem to contribute to the agility of an economy in the wake of a financial crisis through their ability to maintain output and export levels with the help of their global trading networks. FDI was also found to be much more resilient to a crisis compared to domestic investment, presumably because of the ability of MNE affiliates to tap international and intra-company financial resources in the face of a crisis-driven collapse of the domestic banking system. In the case of the Malaysian capital control controversy, there is no clear evidence to suggest that controls on 'hot money' movements adversely affected that country's image as an attractive location for FDI.

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**Table 1: Capital Flows in Asian Crisis Countries, 1990-2000 (US\$ million)**

	1990-94 <sup>1</sup>	1995	1996	1997	1998	1999	2000
<i>Indonesia</i>							
FDI inflow	1693	4346	6194	2702	-356	-2745	-4550
FDI outflow	193	603	600	151	44	72	150
FDI (net)	1500	3743	5594	2551	-400	-2817	-4700
Portfolio flows (net)	1098	4100	5005	-3558	-1878	-1792	-1909
Bank credit and other (net)	2561	2416	-758	-117	-2270	126	-1420
Total (net)	5158	10259	9841	-1123	-4548	-4483	-8029
<i>Korea</i>							
FDI inflow	819	1776	2326	2053	5412	9333	9283
FDI outflow	1501	3551	4671	3438	4739	4197	4998
FDI (net)	-682	-1775	-2345	-1385	673	5136	4285
Portfolio flows (net)	5110	11711	15102	9917	-1224	9190	12177
Bank credit and other (net)	1782	7459	1778	-18848	736	1215	-5757
Total (net)	6211	17395	14535	-10316	185	15541	10704
<i>Malaysia</i>							
FDI inflow	17330	26874	12048	7680	7504	8463	9178
FDI outflow	11986	19269	4121	1686	2255	3572	3622
FDI (net)	5343	7605	7927	5994	5249	4891	5556
Portfolio flows (net)	4396	2226	3498	-7021	-353	264	-2294
Bank credit and other (net)	2657	4456	2300	2698	-2936	-2021	-992
Total (net)	12397	14287	13724	1671	1960	3135	2271
<i>Philippines</i>							
FDI inflow	826	1478	1517	826	2287	573	2029
FDI outflow	135	399	182	145	160	-59	-95
FDI (net)	691	1079	1335	681	2127	632	2124
Portfolio flows (net)	63	1190	5317	71	-928	4816	-236
Bank credit and other (net)	2561	3040	3291	344	-309	-2292	1493
Total (net)	3316	5309	9943	1096	890	3156	3381
<i>Thailand</i>							
FDI inflow	1948	2068	2336	3746	6940	5724	3366
FDI outflow	236	885	932	389	130	373	-23
FDI (net)	1712	1183	1404	3357	6810	5351	3389
Portfolio flows (net)	1748	4082	3545	4353	-41	816	-706
Bank credit and other (net)	7139	16644	14538	-24585	-21223	-15531	-6989
Total (net)	10599	21909	19487	-16875	-14454	-9364	-4306

*'Crisis five' total*



FDI inflow	22616	36542	24421	17007	21787	21348	19306
FDI outflow	14051	24707	10506	5809	7328	8155	8652
FDI (net)	8565	11835	13915	11198	14459	13193	10654
Portfolio flows (net)	12416	23309	32467	3762	-4424	13294	7032
Bank credit and other (net)	16700	34015	21149	-40508	-26002	-18503	-13665
Total (net)	37681	69159	67530	-25547	-15967	7985	4021

*Notes*

(1) Annual average.

*Source:* Compiled from Bank Negara Malaysia, Quarterly Bulletin of Statistics (various issues) for Malaysia and IMF, *International Financial Statistics* (CD-Rom) for other countries.

**Table 2: Mergers and Acquisitions by Foreign Firms in Asian Crisis Countries, 1990-2001, Announced Value (\$ million)**

	1990-94 <sup>1</sup>	1995	1996	1997	1998	1999	2000	2001
Indonesia	747	809	530	332	683	1164	819	3529
Korea	676	192	564	836	3973	1006	6448	3648
Malaysia	1221	98	768	351	1096	1166	441	1449
Philippines	1446	1208	462	4157	1905	1523	366	2063
Thailand	778	161	234	633	3209	2011	2569	657
Crisis five' total	4868	2468	2558	6309	10866	15926	10643	11346

*Note:*

(1) Annual average.

*Source:* UNCTAD (2002), Annex Table B.7..

**Table 3: U.S. Direct Investment in Asian Crisis Countries, 1994-2001**

	1994	1995	1996	1997	1998	1999	2000	2001
<i>Indonesia</i>								
Equity capital	444	-67	77	-612	616	197	-100	-1
Inter-company debt	1729	435	-152	-234	-618	231	641	-137
Reinvested earning	-112	151	1031	867	463	-1012	666	132
Total	2061	519	956	21	461	-584	1207	291
<i>Korea, Republic of</i>								
Equity capital	154	282	102	337	-69	834	771	25
Inter-company debt	-78	185	-19	49	134	391	667	278
Reinvested earning	314	584	668	295	566	304	862	651
Total	390	1051	752	681	631	1531	2300	953
<i>Malaysia</i>								
Equity capital	197	166	179	134	63	-86	-32	32
Inter-company debt	76	243	D	91	-256	-926	500	-713
Reinvested earning	280	628	754	509	-278	573	1003	132
Total	553	1037	1298	733	-470	-439	1471	-549
<i>Philippines</i>								
Equity capital	75	D	3	D	103	D	-12	2
Inter-company debt	152	D	362	D	62	D	-328	149
Reinvested earning	187	171	373	289	122	58	241	-105
Total	414	269	738	107	287	-213	-99	47
<i>Thailand</i>								
Equity capital	145	97	D	D	407	883	288	-64
Inter-company debt	352	131	D	D	73	203	-12	259
Reinvested earning	206	458	550	-42	-56	-17	773	473
Total	703	686	849	-16	424	1068	1050	668
<i>'Crisis five' total</i>								
Equity capital	1015	*	*	*	1120	*	915	-6
Inter-company debt	2231	*	*	*	-605	*	1468	-164
Reinvested earning	875	1992	3376	1918	817	-94	3545	1283
Total	4121	3562	4593	1526	1333	1363	5929	1410

*Note:*

D Suppressed to avoid disclosure of data of individual companies

\* Total cannot be computed because of suppression of data for one or more countries.

*Source:* Compiled from the U.S. Bureau of Economic Analysis electronic database  
([www.bea.doc.gov/bea/di/diacap\\_98.htm](http://www.bea.doc.gov/bea/di/diacap_98.htm))

**Table 4: Asian Crisis Countries: Foreign Direct Investment as a Percentage of Gross Domestic Investment**

	1990-94	1995	1996	1997	1998	1999	2000	2001
Indonesia	3.8	7.6	9.2	7.7	-1.4	-9	-12.2	-11.2
Korea, Rep of	0.7	1.0	1.2	1.7	5.7	8.3	7.1	7.0
Malaysia	15.7	26.0	27.9	29.0	38.0	48.3	40.0	38.2
Philippines	6.5	9.0	7.8	6.1	16.6	3.9	15.0	13.5
Thailand	4.5	3.0	3.1	7.6	29.2	24.3	12.5	13.2

Source: Compiled from UNCTAD, *World Investment Report* (various years) and Bank Negara Malaysia., *Quarterly Statistical Bulletin* (for Malaysia) and Central Bank of China: *Financial Statistics* (for Taiwan).

**Table 5: MNE Presence and Post-Crisis Performance in Malaysian Manufacturing<sup>1</sup>**

ISIC Code		Composition of value added (%)	Composition of employment (%)	MNE share in value added (%)	MNE share in Employment (%)	Post-crisis trend deviation <sup>3</sup>		
						Real output <sup>2</sup>	Employment	Real wage <sup>4</sup>
		(1)	(2)	(4)	(5)	(5)	(6)	(7)
311-312	Food	6.9	6.9	20.0	13.6	-12.5	-21.4	-4.7
313	Beverages	0.8	0.4	58.4	39.1	-19.5	-20.7	-2.6
314	Tobacco	1.1	0.9	69.7	24.8	-23.8	-12.6	28.3
321	Textiles	2.9	3.5	51.8	42.2	-11.3	-25.0	-5.9
322	Wearing apparel	1.5	4.3	43.7	48.2	-10.7	-15.4	-8.4
331	Wood and cork products	5.4	10.3	14.7	14.4	-14.2	-15.0	-11.0
341	Paper and paper products	1.7	1.7	13.5	10.4	-9.3	-8.0	-1.2
342	Printing and publishing	2.6	2.5	8.3	12.0	-13.9	-13.6	-16.4
351	Industrial chemicals	6.0	1.0	62.4	46.2	-0.6	-9.4	11.9
352	Non-industrial chemicals	1.8	1.3	64.2	46.1	-9.8	-8.9	6.4
355	Rubber goods	4.0	4.8	65.3	56.1	-12.6	-8.9	-5.7
356	Plastic products	3.8	5.2	63.5	57.6	-8.5	-3.9	-10.7
362	Glass and glass products	1.0	0.6	17.8	29.8	-6.7	-14.4	44.8
369	Non-metallic minerals	4.1	3.2	10.5	9.6	-15.8	-12.7	-2.2
371	Iron and steel products	2.6	1.7	8.1	10.5	-19.0	-12.7	-21.3
372	Non-ferrous metal	0.9	0.7	64.2	75.1	-4.9	-10.8	13.2
381	Fabricated metal products	4.1	4.9	35.5	31.3	-10.4	-5.3	-8.2
382	Non-electrical machinery	5.6	5.2	23.7	24.2	-20.5	-17.8	19.0
383	Electrical machinery	30.5	29.9	95.3	96.7	-8.8	-11.8	20.7
38321	Consumer electronics	5.3	5.8	93.4	88.7	-4.1	-17.5	-5.0
38329	Semiconductors and electronic	21.2	19.6	90.5	89.5	-6.3	-9.0	4.6
38391	Cables and wires	1.8	1.9	49.9	75.4	-17.6	-15.4	20.0
384	Transport equipment	6.3	3.8	6.5	11.7	-17.0	-14.5	-1.7
Total	Total manufacturing	100.0	100.0	44.4	45.4	-9.0	-11.7	0.6

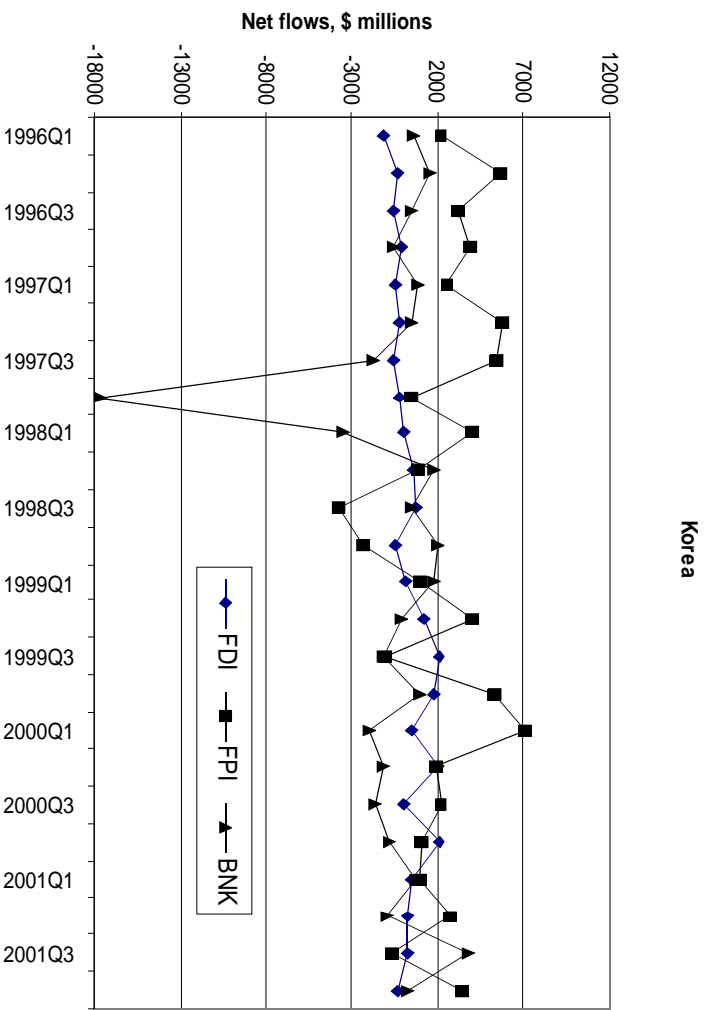
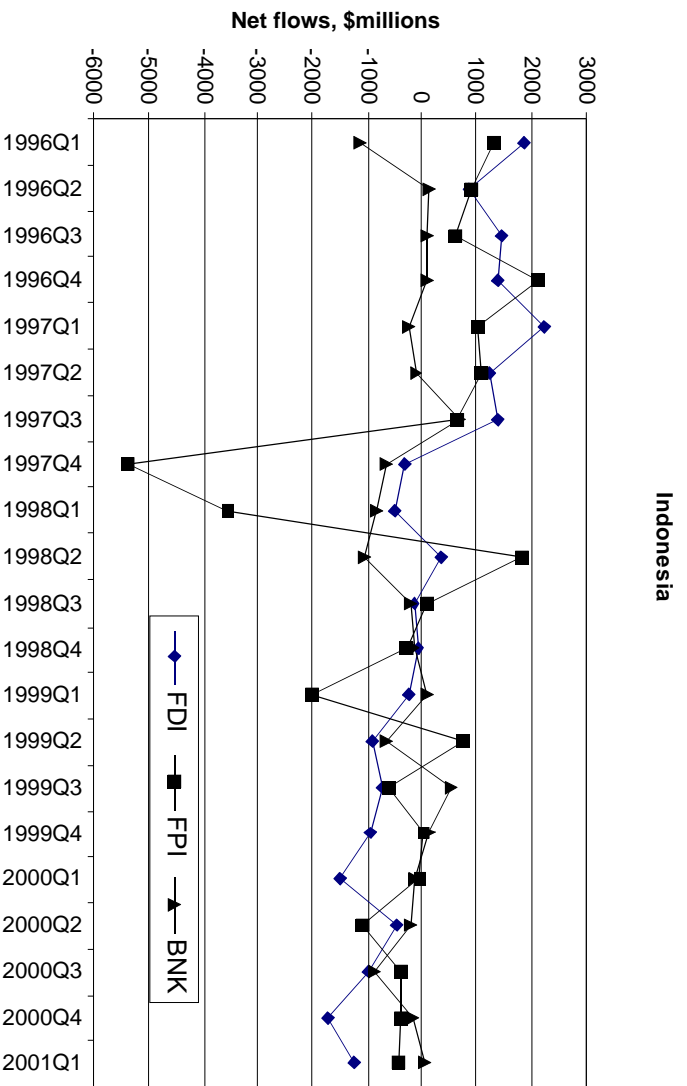
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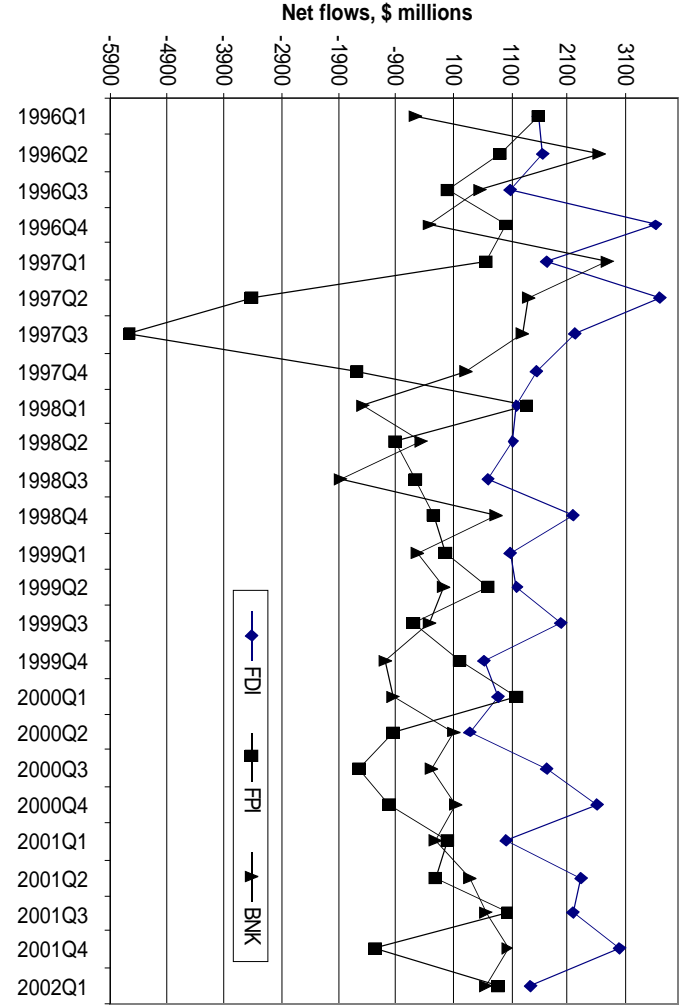
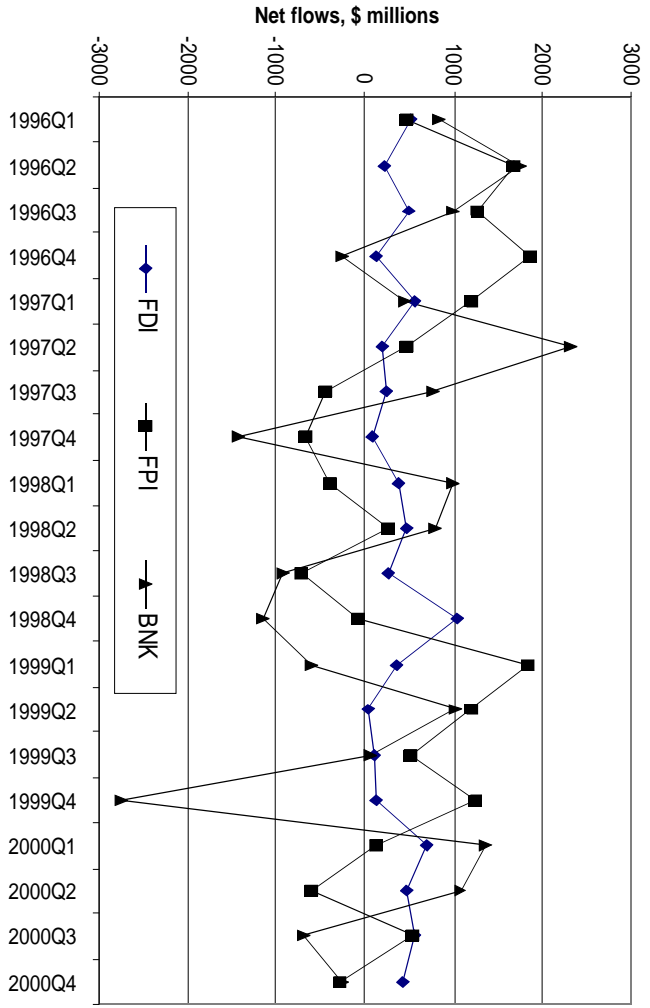
- (1) Data in columns 1 to 5 are for 1996 and estimates reported in columns 5-7 are based on annual data for the period 1987-2000.
2. Growth rate of gross output deflated by wholesale price index of domestic manufacturing.
3. Estimated by fitting the following equation:  
$$\text{Log } X = \alpha + \beta_1 T + \beta_2 D * T,$$
Where X is the relevant variable (real output, employment, real wage); T is time trend and D is a dummy variable which takes value 1 for 1998-2000 and zero for other years. The post-crisis trend deviation is given by  $[(\beta_2 / \beta_1) * 100]$ . All estimates other than the ones denoted by \* are significant at least at the 5% level.
4. Growth rate of nominal wages deflated by the consumer price index.

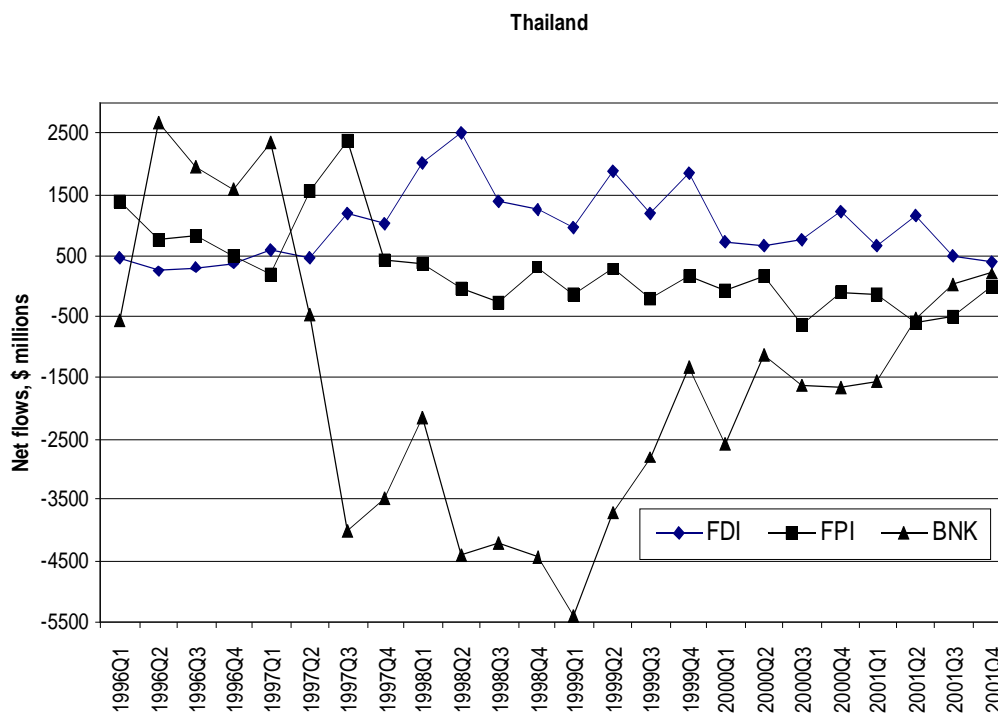
*Sources:*

Wholesale and consumer price indices are from Ministry of Finance, Malaysia, *Economic Survey* (various issues). The other data series are compiled from Department of Statistics, Malaysia, *Annual Survey of Manufacturing Industries 1997* (published report and unpublished data on output and employment of MNE affiliates) and *Index of Industrial Production* (various issues).

**Figure 1 : Net Capital Flows to Indonesia, Korea, Malaysia, Philippines and Thailand,  
1996q1-2001q1**







Legend : FDI Foreign direct investment; FPI Portfolio investment  
 BNK Bank credit

Source: As for Table 1.