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The East Asian Financial Crises: An Analytical Survey

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Abstract

The East Asian financial crises, which erupted in mid-1997, were unanimously unpredicted. They also represent a new kind of crises, as they do not seem to conform to the so-called *first-generation* and *second-generation* literature on currency crises. Moreover, current explanations of the Asian turmoils (based on misguided macro-management, self-fulfilling foreign financial panic, or fragile domestic financial markets) might be simplistic.

The first part of the paper reviews East Asia's economic background until 1997 and describes the onset and development of the crises, distinguishing between the cases of Southeast Asia and South Korea.

After critically reviewing six main approaches on the Asian crises, the second part of the paper presents a combined alternative explanation, based on common factors (such as overinvestment, imprudent financial liberalization, large short-term foreign debt, and the herding behavior of foreign capital and currency markets), as well as on specific features (such as high current account deficits and large currency appreciations in some Southeast Asian economies, and substantial foreign portfolio investments in South Korea).

The third part of the paper is devoted to assess, from a critical perspective, the IMF's approach to the Asian crises, and more specifically, its program in South Korea.

Finally, some theoretical conclusions are extracted from the previous analysis, concerning models and predictors of currency crises, financial liberalization in emerging economies, and the dangers associated with short-term international capital flows.

The paper includes a statistical appendix, with some of the main relevant data.

Keywords: Asian financial crisis, capital flight, currency crises, economic growth, financial liberalization, financial policy, foreign debt, IMF, and macroeconomic fundamentals.

JEL classification: F30, F32, F33, F43, G15.

Introduction

The East Asian crises, which erupted in mid-1997, have been one of the most serious and challenging economic events of the 1990s.

To begin with, the Asian turmoils certainly represent a new kind of financial crises, as the traditional theoretical models (those represented in the so-called *first-generation* or *second-generation* literature on currency crises) fail to render an accurate picture of their causes, consequences and remedies[1]. The Asian crises have not been simply the result of bad fundamentals due to fiscal irresponsability, as in Latin America in the early-1980s, nor the mere outcome of a self-fulfilling foreign financial panic against slowing economies with rising unemployment, as in Western Europe in 1992-1993 or in Mexico in 1994-1995.

The Asian crises were, to an extent which is difficult to understand today, unanimously unpredicted. Debt ratings by international credit rating agencies, spreads on foreign lending, and stock indexes (except, in the latter case, minor corrections in Thailand and South Korea in early 1996) did not change significantly before the turmoils. Furthermore, both the Asian Development Bank (ADB) and the International Monetary Fund (IMF) failed to anticipate even any kind of economic and financial problems[2].

Moreover, there is no consensus on the diagnosis of the crises. Explanations of the Asian crises abound (see a survey in Corbett and Vines, 1998), but those with a real insight may be divided in three main categories. Firstly, some analysis have insisted on a misguided macro-management as the main factor, albeit conceding that fundamentals were sounder than in previous cases[3]. Secondly, other strands of thought have blamed the "herding", irresponsible, and overreactive behavior of external financial (e.g., capital and currency) markets as the culprit of the Asian crises[4]. Finally, a third set of explanations has stressed the importance of a combination of fragile domestic financial markets (a result of inadequately administered financial deregulation and opening) and large and volatile capital inflows and outflows[5].

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[1] According to *first-generation* models (Krugman, 1979), crises arise as a result of loose macroeconomic policies (for instance, of excessive public sector deficits, which are monetized resorting to international reserves), and which become thus inconsistent with the exchange rate system. *Second-generation* models (Obstfeld, 1994 and 1995) analyze the possibility of self-fulfilling crises, due to herding behavior by foreign investors expecting currency realignments, or to contagion effects, and mainly independent from the position of fundamentals. See a survey of the former in Agenor, Bhandari and Flood (1992) and of the latter in Eichengreen, Rose and Wyplosz (1996). See also section 5.1 below.

[2] The ADB's *Asian Development Outlook 1997 and 1998* stated that, despite a predictable slowdown in the rate of growth in 1996, "over the near term, prospects for growth look good", while the *IMF Annual Report 1997* praised the "soundness" of Thailand's and South Korea's macroeconomic policies.

[3] See IMF (1998a and b) and Corsetti, Pesenti and Roubini (1998).

[4] For instance, Radelet and Sachs (1998a and b).

[5] Wade (1998a, b, and c), Wade and Veneroso (1998a and b), Chang and Velasco (1998b) and Greenville (1998).

Besides, the Asian turmoils are also different from previous episodes of currency crises in their significant regional and international impact. According to the importance of East Asia in the world economy (30% of world GDP measured in purchasing power parity), its crisis is having severe regional and world-wide implications. Following a recent survey on the state of the world economy by *The Economist*, East Asia is mired in a deep and long-lasting recession; Russia is in critical condition and has virtually defaulted on its debt; China may respond to the slowdown in its traditionally high rate of growth by devaluating its currency; the Hong Kong dollar is under severe pressure and the economy of the new Chinese Special Administrative Region is beginning to contract sharply; growth is slowing in some developed economies, especially in the United States and the United Kingdom; share prices have tumbled across the whole world, wiping out at least US$ 4 trillion in assets during the summer of 1998; commodity prices have fallen precipitously; and investors' confidence is at an all-time low. At the time of writing (early October 1998), there is even a risk of a global recession, if the crisis in emerging markets deepens, if the IMF runs short of money, if Japan continues to delay the rescuing of its financial system and, more obviously, if Wall Street crashes, if the Federal Reserve refuses to cut interest rates significantly, if the new European Central Bank sticks to monetary orthodoxy, and if developed economies react to the new international environment retreating towards protectionism[6]. In mid-September 1998, according to a report in *Business Week*, "most U.S. stocks are down 25% or more from their highs as the outlook for profit growth darkens. Asia sinks further into depression as Hong Kong, Thailand, and Malaysia try to insulate their markets from the forces of international capital. Japan heads into its fourth quarter of contraction as policy remains paralyzed, and Latin America teeters on the edge of yet another recession"[7].

Furthermore, the international community's response to the Asian turmoil and the IMF's approach to the Asian crises, and more specifically the Fund's programs in Thailand, Indonesia and South Korea, have been widely criticized, even by scholars and analysts willing to defend the conventional stance of the Fund[8].

The main regional consequences of the Asian crises have been considerable depreciations of national currencies, a sharp drop in stock indexes, and a recession in most of the formely dynamic economies (see tables A1 to A3 in the Appendix), with its corollaries of bankruptcies, rising unemployment and increase of poverty incidence (see IMF, 1998b and ILO, 1998).

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[6] "The World Economy: On the Edge", *The Economist*, September 5, 1998, pp. 17-19.

[7] "Global Crisis. Time to Act", *Business Week*, September 14, 1998, p. 25.

[8] See, for instance, several press articles written in 1997 and 1998 by Jeffrey Sachs, director of the HIID, Martin Wolf, columnist in the *Financial Times*, or even Joseph Stiglitz, chief-economist in the World Bank.

1. The Economic Background

East Asia (that is, Japan, China, South Korea, Taiwan, and the countries of the Association of Southeast Asian Nations, ASEAN[9]) had featured, since the 1960s and until the mid-1990s, sustained rapid growth, with impressive structural change and substantial amelioration in the standard and quality of living of its population (Asian Development Bank, 1997). The high-performing Asian economies were even praised by a well-known World Bank's report as a *miracle* (World Bank, 1993). Except Japan and The Philippines, all East Asian economies were growing at exceptionally high rates during the 1980s and early 1990s (table 1).

In 1990-1996, East Asia, which accounted for around a fifth of current world gross output, was responsible for *half* of international growth and for *two-thirds* of global investment. Some slowdown appeared in 1996, as shown in table 1, but this was interpreted then by analysts as a minor conjonctural correction.

Furthermore, the East Asian developing economies featured during that period a generally sound developmental path with considerable macro stability.

Table 1. GDP growth in East Asia, 1980-1997 (%)

	1980-89	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
China	9.5	3.8	9.2	14.2	13.5	12.6	10.5	9.7	8.8
Hong Kong	7.3	3.4	5.1	6.3	6.1	5.4	3.9	4.9	5.3
Indonesia	5.3	9.0	8.9	7.2	7.3	7.5	8.2	8.0	5.0
Japan	3.8	5.1	3.8	1.0	0.3	0.6	1.5	3.9	0.9
Malaysia	5.8	9.6	8.6	7.8	8.3	9.2	9.5	8.6	7.8
Philippines	1.9	3.0	-0.6	0.3	2.1	4.4	4.8	5.7	5.1
Singapore	7.3	9.0	7.3	6.2	10.4	10.5	8.7	6.9	7.8
South Korea	7.8	9.5	9.1	5.1	5.8	8.6	8.9	7.1	5.5
Taiwan	8,1	5.4	7.6	6.8	6.3	6.5	6.0	5.7	6.9
Thailand	7.3	11.6	8.1	8.2	8.5	8.6	8.8	5.5	-0.4

Sources: IMF (1998a), tables A2 and A6.

1.1. High growth and outward orientation

The growth of per capita GNP has been extraordinarily high in East Asia in 1985-1995: 8.4% in Thailand, 8.3% in China; 7.7% in South Korea; 6.2% in Singapore; 6.0% in Indonesia; 5.7% in Malaysia; and 4.8% in Hong Kong. Only The Philippines (1.5%) lagged behind. Over this period, growth in all low- and middle-income economies was a mere 0.4%, while that of all high-income economies was only 0.8% (World Bank, 1997: table 1).

[9] Mainly Indonesia, Malaysia, The Philippines, Singapore, and Thailand. Other members of ASEAN are Brunei, Laos, Myanmar, and Vietnam.

According to the ratio of exports to GDP (table 2), all the East Asian economies, with the partial exception of Indonesia (which had turned somewhat inward), were pursuing export-oriented growth, in stark contrast with the Latin American countries in the 1980s.

Table 2. Exports of goods and services/GDP in East Asia, 1980 and 1995

	1980	**1995**
China	6	21
Hong Kong	90	147
Indonesia	33	25
Malaysia	58	96
Philippines	24	36
Singapore	204	169 (1993)
South Korea	34	33
Taiwan	48	48
Thailand	24	42

Sources: World Bank and, for Taiwan, CEPD.

1.2. Generally sound macroeconomic fundamentals

All the main East Asian economies displayed in 1994-1996 low inflation, fiscal surpluses or balances, limited public debt, high savings and investment rates, and substantial foreign exchange reserves, with no signs of significant deterioration before the crisis (tables B1 to B8 in the Appendix)

They also received high and apparently sustainable capital inflows. According to the Institute of International Finance, net private capital inflows to South Korea, Indonesia, Malaysia, Thailand and The Philippines rose from US$ 37.9 billion in 1994 to US$ 93.8 billion in 1996[10]. These extremely large capital inflows, mostly by private creditors (which accounted for US$ 25.8 billion in 1994 and for US$ 76.4 billion in 1996), were attracted by: high productivity growth in the recipient economies, which featured also low labour costs; a hospitable climate there for investment and commercial activities; relatively high interest rates; and stable nominal exchange rates. They were also pushed, in the capital-exporting economies, by the low interest rates in Japan and by the excess liquidity in Western developed countries (Bacchetta and Van Wincoop, 1998). These capital inflows also seemed then sustainable, as it was acknowledged, albeit perhaps too confidently, that the bulk was directed towards investment rather than towards consumption.

The main conclusion, at this point, is that the Asian crises, in stark contrast to those of Latin America in the early-1980s, were the result of private and investment-related problems, instead of public and consumption-related difficulties.

[10] Institute of International Finance, "Capital Flows to Emerging Market Economies", September 29, 1998, table 3.

However, before the crisis unfolded, some of the East Asian countries had nevertheless several structural weaknesses. Thailand and Malaysia suffered large current account deficits (table 3) in a context of currency appreciation. The ASEAN economies (especially Indonesia and Thailand), and also South Korea, accumulated substantial foreign debts, mainly private, short-term, denominated in foreign currency, and largelly unhedged. The ASEAN economies (and, to a lesser extent, also Korea) had vigorously pursued the deregulation of their domestic financial markets and a rapid opening of their capital account (but the latter was not so intense in Korea). All the main East Asian economies were installed in a process of overinvestment, as measured by the current account deficits in Thailand and Malaysia and by the high growth in domestic credit, especially in Malaysia, The Philippines and Thailand.

Table 3. Current account balances in East Asia (as % of GDP), 1995-1997

	1995	**1996**	**1997**	**Average**
Thailand	-7.9	-7.9	-2.2	-6.0
Indonesia	-3.3	-3.3	-2.6	-3.1
Malaysia	-10.0	-4.9	-4.8	-6.5
Philippines	-4.4	-4.7	-5.4	-4.8
South Korea	-4.4	-4.7	-2.0	-2.9
Taiwan	+2.1	+4.0	+2.3	+2.8
Hong Kong	-3.9	-1.3	-1.5	-2.2
Singapore	+16.8	+15.7	+15.2	+15.9
Japan	+2.2	+1.4	+2.2	+1.9
China	+0.2	+0.9	+2.4	+1.1

Source: IMF (1998a), table 10.

That said, it is important to point out that most East Asian economies were not running particularly large current account deficits, with the aforementioned exceptions of Thailand and Malaysia[11]. Moreover, the deficits were "good" in the sense that the capital inflows needed to compensate for them were used, in general, to finance investment rather than government expenditure or private consumption. The overvalued currencies and the quasi-fixed exchange rates were certainly a problem, especially when combined with significant current account deficits. But overvaluation was generally not higher than 10%, a too small and too common figure to expect a currency crisis (only Indonesia and The Philippines suffered substantial appreciations, of around 25%, since 1993). The fixed exchange rates were instrumental as an (albeit counterproductive) anchor in their macroeconomic policies, mainly to fight inflationary pressures and to continue to attract foreign capital. With the exception of Indonesia, debt-service ratios were not particularly large (12% in Thailand and 6% in Malaysia).

[11] Besides, both had previously (in the 1980s and early 1990s) suffered from high deficits. Thailand had a current account deficit in excess of 8% in 1990 and 1991, while Malaysia surpassed this figure in 1987.

The ASEAN economies certainly embraced financial deregulation and opening, but never completely. However, as suggested below, the lack of experience by banks, borrowers and prudential supervisors in a context of financial liberalization (albeit not complete) was surely a main factor explaining the subsequent crises. The rapid opening of the capital account was a common feature in Southeast Asia, but not (or not, at least, to the same degree) in South Korea, which also suffered a tremendous crisis. Finally, overinvestment was a result of the high increase in the already large investment rates, with stable savings rates, and it provoked an import surge and a deterioration in the current account.

2. The Onset and Development of the Financial Crises

2.1. Southeast Asia

Capital inflows to the five main East Asian developing economies increased from US$ 150 billion in 1980-1989 to as much as US$ 320 billion only in 1990-1995, according to estimates from the IMF (1997a). As already mentioned, pull factors were low unit labour costs, several incentives to foreign investments and credits, high interest rates, relatively fixed exchange rates and inadequate financial practices. The latter prompted an excessive overborrowing from international capital markets, much of it short-term, private, denominated in foreign currencies, and unhedged. Main push factors were low interest rates in Japan and, to a lesser extent, also in the US and the EU; excess liquidity in the Western developed economies; and global financial integration.

Except in South Korea, the bulk of those capital inflows was made of bank loans and foreign direct investment, and not of portfolio flows, prone to be more volatile (Chinn and Dooley, 1998).

In the case of Southeast Asia, these capital inflows had three main adverse consequences. First, they exerted an upward pressure on prices in non-tradable goods, which fueled real asset speculation and created a bubble in the property market (Edison, Luangaram and Miller, 1998). Second, the excess supply of foreign exchange contributed to a substantial currency appreciation, which in turn lowered international competitiveness and slowed export growth. Third, the capital inflows created a large increase in domestic bank lending, raising investment rates and merchandise imports, and deteriorating the current account.

Morover, some external shocks aggravated the declining competitiveness. The depreciation of the Japanese yen respective to the US dollar since mid-1995 and some deterioration in the terms of trade (as manufactured exports began to be "commoditized" in a context of excess worldwide supply) contributed to the slowdown in export earnings, already apparent in 1996 (table 4). Contrary to some analyses, China's devaluation in 1994 did not contribute to a swing in competitiveness from Southeast Asia, as the *renminbi*'s floating rate was not devalued and as the very

high domestic inflation until the end of 1995 led in fact to a sharp real appreciation (Fernald, Edison and Loungani, 1998).

Table 4. Growth rates of merchandise exports, 1991-1997

	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
Hong Kong	18.5	20.2	13.2	11.8	15.1	4.8	n.a.
Indonesia	19.8	22.7	15.5	14.8	18.0	15.0	n.a.
Malaysia	18.5	5.6	22.6	23.5	20.1	10.1	n.a.
Philippines	24.6	6.6	17.4	23.8	21.0	33.0	23.2
Singapore	12.1	8.5	17.0	25.8	21.5	6.7	n.a.
S. Korea	13.6	14.3	12.6	17.9	26.3	8.5	27.6
Taiwan	13.2	1.5	12.2	8.2	19.5	8.0	10.7
Thailand	21.0	16.1	14.5	17.5	24.2	3.3	25.7

Source: IFS, ADB, and, for Taiwan, CBC.

Although indicators of the property bubble are scant, some indirect data suggest that this was the case, especially in Bangkok and Kuala Lumpur. Between December 1990 and March 1997, real currency appreciation amounted to 25% in Indonesia and Thailand, 28% in Malaysia, and 47% in The Philippines, according to estimates from Radelet and Sachs (1998a: table 10). Following data from table B.12 in the appendix, between the end of 1993 and the end of 1996, domestic currencies featured an appreciation of 25.5% in Indonesia, 24.0% in the Philippines, 7.8% in Thailand, and 3.2% in Malaysia. The increase in domestic credit is shown in table 5.

Table 5. Domestic credit to the private sector (as % of GDP)

	1994	**1995**	**1996**	**1997**
Indonesia	51.9	53.5	55.4	62.0
Malaysia	76.5	86.8	93.4	n.a.
Philippines	29.1	37.5	48.4	55.9
Singapore	84.2	90.8	96.0	n.a.
South Korea	56.8	57.0	61.8	69.8
Taiwan	146.8	148.8	144.1	145.2
Thailand	91.0	97.6	101.9	116.3

Sources: IFS and, for Taiwan, CBC.

2.2. South Korea

Contrary to the case of the Southeast Asian economies, South Korea was not suffering in 1996-1997, at least to the same degree, from the four aforementioned weaknesses:

* the increase of domestic bank lending, directed mainly to finance poor quality investments, was largelly absent. The ratio between bank credit to the private sector

and GDP increased only modestly from 57% in 1994-1995 to 62% in 1996 (while it rose, for instance, from 76% to 93% in Malaysia). Moreover, the bulk of the capital inflow and the domestic capital formation had been used to finance investment in manufacturing (mainly in export-oriented activities) instead of speculation in real estate or finance;

* the appreciation of the Korean won was much less intense: according to calculations from Radelet and Sachs (1998a: table 10), between December 1990 and March 1997 the real appreciation of the Korean *won* amounted to 11%, much less than the rise registered in Indonesia and Thailand (+25%), Malaysia (+28%) and The Philippines (+47%). This pattern seems to be validated by data in table B12 in the appendix;

* Korea did not experience a similar bubble in the property market;

* Korea's current account deficit amounted to only 2.9% of GDP in 1995-1997, a much lower figure than Thailand's 7.9% or Malaysia's 7.4% (both in 1995-1996). Furthermore, the deficit decreased from 4.9% in 1996 to 2.0% in 1997.

2.3. Japan

Japan is suffering, since the last quarter of 1997, from a completely distinct crisis, due mainly to insufficient aggregate domestic demand, although the crises in the rest of East Asia also played a role. Private consumption, total investment and net exports are all falling, mainly as the result of deflation fears. Japan's worst recession since the World War is deemed to be long-lasting, due to political disagreements on how to handle financial reform and also to the limits of potential fiscal and monetary countercyclical policies. The demographic aging and the already very low discount rate (a mere 0.25% at the time of writing) tend to block the implementation of a keynesian stimulus.

3. Competing Explanations

3.1. Financial bubbles and declining returns to investment

According to a first analysis put forward by Krugman (1997), the Asian crises were mainly related to a burst of a financial bubble in a context of low and declining returns to investment. "Market failures" in international capital flows contributed to large inflows in East Asia, while "crony capitalism" in the region increased domestic investment in speculation-related real estate, in unsound financial activities, and in poor quality infrastructures. The short-term breaking or bursting of the ensuing bubble appeared thus in a framework of low and declining capital returns.

This explanation is severely flawed. First, the bubble had been building up for a long time, and it could have burst anytime sooner. Second, Krugman's traditional

thesis on low total factor productivity growth (TFPG) has been subjected to considerable theoretical and empirical challenge (see, for instance, Rodrik, 1997). Third, low and declining returns might certainly explain capital outflows (in 1997-1998) and declining investment rates (in 1998), but not capital inflows (as in 1990-1996) nor substantial and sustained investment rates (up to 1996 or 1997), which were common to the East Asian economies before the crisis.

3.2. Bad banking

A second explanation by Krugman (1998a) stressed banking problems as the main element explaining the crisis. According to his view, defficient regulation of banking activities, some lack of transparency, and various implicit governmental guarantees (which created "moral hazard"), led banks and other financial institutions in Southeast Asia to a situation of overindebtedness and of excessively high levels of non-performing loans. As a result, overinvestment in fixed capital and land created a financial bubble. When the bubble burst, banks using assets as collateral for their loans entered a period of crisis, aggravated further by the collapse in their stockmarket values. The main problem with this explanation is that, after more than a year of protracted crisis, reducing it to a mere banking problem is obviously too simplistic.

3.3. Misguided macro-management

The IMF's analysis of the Asian crises has blamed overheating, fixed exchange rates, financial weakness (due to excessive regulation and too little competition), some lack of information and transparency, and loss of confidence (as a result of uncertainties on economic policy).

According to this view (IMF, 1998a and b), fast growth in domestic credit in the East Asian developing countries created overheated economies. In turn, this resulted in asset inflations, current account deficits, and large capital inflows. The latter, mainly a consequence of low interest rates in Japan, made inevitable some significant macroeconomic imbalances, such as currency appreciations and high interest rates. The rise in real effective exchange rates was also a result of fixed nominal exchange rates with the US dollar and of the 20% depreciation of the Japanese yen respective to the US dollar between April 1996 and April 1997. As a consequence, there was an adverse swing in competitiveness, which slowed export growth and raised merchandise imports, and therefore contributed to worsening current accounts.

Moreover, financial systems in developing East Asia were unsound, due to the traditional practice of excessive regulation, governmental interference, directed credit, and lending to related parties. Little competition existed in the banking sector, due to barriers to entry. Banks had accumulated large amounts of risky assets and they held inadequate capital and reserves ratios.

Some lack of information and transparency was pervasive also in their financial systems, to the extent that the allegedly powerful regulators and prudential supervisors received incomplete or unreliable data. In fact, standards for public disclosure fell short of what was necessary, so economic agents were unable to assess adequately the actual situation of financial institutions.

Finally, a lack of confidence erupted just before the financial turmoil, mainly as a result of political uncertainties on the authorities' commitment to implement the necessary reforms and adjustments. This exacerbated the currency depreciations and the decline in stock market indexes and asset prices.

The IMF's analysis is fundamentally out of focus. If overheating existed, it had been running for a long time in the late-1980s and early 1990s. Currency pegs were also used in several other developing economies, such as Argentina, with some success; in the region, the Hong Kong dollar's fixed exchange rate (in operation since 1983) did not make its economy more vulnerable than those in Southeast Asia. And, foremost, it is striking to relate financial weakness (which certainly existed) to an over-regulated environment, while most other analysts agree that financial liberalization was the main aspect to emphasize. Politically-related confidence crises are also hard to square with the indeniable fact that East Asia had traditionally displayed political stability, at least until the financial turmoil unfolded, and also competent and reliable policy-makers.

3.4. Unsound fundamentals and international capital markets

According to Corsetti, Pesenti and Roubini (1998), the "usual suspects" indicating a potential currency crisis (slowing growth, high budget deficits, high inflation, and substantial current account deficits over several years) were not observed in East Asia in 1990-1996. However, unsound fundamentals were, in their view, at the heart of the turmoil. Following their analysis, Southeast Asia and Korea were suffering, especially since 1995, from a combination of several imprudent macroeconomic policies: (i) a fixed exchange peg to the US dollar, which led to substantial real currency appreciations; (ii) an investment boom, which created a savings-investment gap, leading to large and growing current account deficits; (iii) an excessive lending to risky and low-profitability projects, due to political pressures ("crony capitalism"), to the "moral hazard" that domestic financial institutions were facing, and to the mix of exchange pegs and relatively low internal interest rates; (iv) very weak and fragile financial systems, as a result of the existence of implicit or explicit governmental guarantees to lenders and of the lack of prudential regulation and supervision, in a context of domestic and external financial liberalization; and (v) the accumulation of foreign debt in the form of short-term, foreign-currency denominated and unhedged liabilities.

In this context, the rational behavior of international financial markets led to speculative attacks on the East Asian currencies, which created a vicious circle of

competitive devaluations, and to a sharp reversal in 1997 of the capital flows in the region, to which international investors lent excessively until 1996.

This analysis may be criticized on several grounds. Firstly, it does not distinguish between Southeast Asia and South Korea. Secondly, currency appreciation had been higher in The Philippines than in Thailand or even Indonesia, while the crises erupted precisely in the latter. Thirdly, the savings-investment gap was much larger in Thailand and Malaysia than in Indonesia or The Philippines. Fourthly, "crony capitalism" certainly was a feature in Indonesia and perhaps Malaysia, but certainly not, at least to the same degree, in Thailand or The Philippines.

Of course, some accuracy appears in the aspects related to the weakness and fragility of the domestic financial systems and to the accumulation of foreign debt, although the debt service ratio was much larger in Indonesia (33%) than in the other Southeast Asian economies (12% in The Philippines and Thailand).

Besides, the international capital markets were not perfectly rational in their behavior, as they overreacted to a situation not as bad, respective to fundamentals, as in other non-Asian developing economies.

3.5. Self-fulfilling panics in external financial markets

This is the explanation of Radelet and Sachs (1998a and b) and Sachs (1998). They list three main causes of the crisis:

- the intrinsic instability of international financial markets, subjected to bouts of panic and clearly overreactive: "international loan markets are prone to self-fulfilling crisis in which individual creditors may act rationally and yet market outcomes produce sharp, costy and *fundamentally unnecessary* panicked reversals in capital flows" (Radelet and Sachs, 1998b: 4).

- several external macroeconomic shocks in East Asia, including the surge of new competitors (China and Mexico) and the depreciation of the yen *vis-à-vis* the US dollar;

- weaknesses in the East Asian financial systems, which had their roots in attempts at financial deregulation and opening.

As a result, "when capital flows waned in late 1996 and early 1997, a financial panic erupted following a series of missteps by the Asian governments, market participants, the IMF, and the international community. The result was a much deeper crisis than was necessary or inevitable" (Radelet and Sachs, 1998b: 12).

This analysis concedes that there were indeed several growing imbalances and weaknesses in the East Asian economies (mainly the buildup of short-term external debt, real exchange rate appreciation, excessive credit expansion, and inadequate financial regulation and supervision). However, none of the international and domestic

conditions preceding a crisis were present. The situation in external financial, commodity and trade markets was relatively benign. None of the East Asian economies were in the aftermath of an anti-inflationary program, unlike Mexico in 1994 or Argentina in 1995. The real exchange rates were only mildly overvalued: between 1990 and early 1997, real appreciation amounted to 25% in Southeast Asia and to 12% in South Korea (while Brazil and Argentina, for instance, had seen real appreciations of more than 40%). The overall debt carrying capacities did not seem to present inminent risks of default.

In short, Radelet and Sachs validate the hipothesis that "the crisis was triggered by dramatic swings in creditor expectations about the behavior of other creditors, therevy creating a self-fulfilling, though possibly individually rational, financial panic" (1998b: 22).

This analysis has been criticized on several grounds. Firstly, it may apply to the case of Korea, while its suitableness to Southeast Asia is debatable. Secondly, it overlooks several serious internal macro imbalances in the region, such as overinvestment and imprudent financial liberalization. Thirdly, a consensus exists that high current account deficits and real currency appreciation played a role in the case of several ASEAN members (although not in Korea).

3.6. Financial underregulation and speculative attacks

Wade and Veneroso (1998a and b) and Wade (1998a, b, and c) point to two main factors explaining the crises: (i) the removal in the early 1990s of the traditional institutional structure of government-banks-firms collaboration and of restrictions in the capital account; and (ii) an overreaction of international financial markets, which led to a panicky pullout from economies with no underlying real vulnerabilities.

The pre-existing financial structure of the East Asian economies was centered on relatively high levels of intermediation from savers to banks and relatively high levels of corporate debt to equity. This conferred developmental advantages but also made for financial fragility. Once restrictions on capital flows were removed and the triangular collaboration came to be steered, financial fragility was more exposed: "Asian governments undertook radical financial liberalization, encouraged by the IMF, the OECD, and by Western governments, banks and firms. They removed or loosened controls on companies' foreign borrowings, abandoned coordination of borrowing and investment, and failed to strenghten bank supervision. By doing so they violated one of the stability conditions of the Asian high debt model, helping to set up the crisis. *The rush to capital liberalization in the early to mid-1990s without serious institutional support stands out as the single most irresponsible act in the whole crisis, for which the blame falls equally on national governments and international organizations*" (Wade and Veneroso, 1998b: 5, emphasis added).

Moreover, in the absence of *ex ante* signs of rising vulnerability, a sharp and panicky pullout by domestic and foreign investors triggered the crisis. The swing in one year of more than US$ 100 billion for the five main East Asian economies

amounted to 11% of their combined GDP, more than the swing between 1981 inflows and 1982 ouflows in the biggest Latin American debtors (8% of the combined GDP of Brazil, Mexico, and Argentina). It is even suggested that, in Asia, the pullout (albeit perhaps individually rational) was "in fact a socially irrational response in the sense that, without the panic, the situation was reasonably stable - the debt could have been repaid on plausible assumptions about economic performance of companies, banks, and economies" (Wade, 1998b: 2).

This explanation seems to fit with the facts observed in section 2 of this paper, although it overlooks overinvestment as a main cause of the crisis. Wade (1998b) certainly ackowledges that there was some declining social profitability of investment, as the evidence of raising incremental capital-outputs ratios (ICORs) suggest, but he dismissed this factor on two grounds: (i) the increasing ICORs were hardly surprising, given the sheer amount of investment; (ii) ICORs remained lower than in the rest of the developing world.

3.7. A combined explanation

Several empirical studies on currency crises were published after the ERM episode in 1992-1993 and Mexico's financial turmoil in 1994-1995. For instance, following Frankel and Rose (1996), current account and public deficits are not good predictors. The authors suggest that several other indicators might be more relevant: large short-term capital flows, low foreign exchange reserves, high domestic credit growth, low international interest rates, and overvalued domestic currencies. According to Sachs, Tornell and Velasco (1996), the relevant leading indicators of currency crises in developing economies are: (1) lending booms, fueled by capital inflows, and associated with financial liberalization and weak regulatory systems; (2) overvalued exchange rates; and (3) low ratios of international reserves to narrow money (M2).

In East Asia, capital inflows have been mainly related to bank loans and FDI rather than to portfolio investments, except in the case of South Korea (table B9). International reserves were raising in the years preceding the crises, both in absolute value (table B6), and as months of merchandise imports (except in South Korea in 1996, table B8). Only in Malaysia the ratio of international reserves to M2 decreased significantly between 1993 and 1996 (table B7). Domestic credit growth was substantial in Southeast Asia (although not in Indonesia) in the two years preceding the speculative attacks, but this was not the case of Korea. International interest rates were low in Japan, but they were higher in the US and Western Europe. A severe currency overvaluation only appeared in The Philippines and Thailand, but not in Indonesia, Malaysia and South Korea, according to estimates of bilateral real effective exchange rates (REERs) by Chinn (1997) and Chinn and Dooley (1998). Using data of multilateral REERs from table B.12, currency appreciation between 1993 and 1996 was significant only in Indonesia and The Philippines.

Therefore, only lending booms can be retained as a predictor. But even domestic credit (respective to GDP) was relatively low, around two years before the crisis erupted, in South Korea.

So the picture is mixed. The explanation offered in this paper relies on common and specific factors. Among the former, overinvestment, financial liberalization, large foreign debt (especially in short-term liabilities), and the "herding" behavior in foreign capital and currency markets, surely played a role. The latter are high current account deficits along with currency appreciation in some ASEAN members (although the external deficit was low in Indonesia, while Malaysia did not suffer from severe overvaluation). In the case of Korea, main weaknesses were large foreign portfolio inflows in 1995-1997 and substantial short-term debt accumulation in 1996-1997.

Overinvestment is related to very high investment rates (table B5) and is also associated to disminishing returns to capital. Although reliable data on the evolution of ICORs are scant, available information tends to suggest that capital returns were decreasing since the late-1980s, especially in manufacturing sectors featuring overcapacity.

Financial liberalization proceeded in the 1990s in a very dynamic fashion, especially in Southeast Asia. Until the late-1980s, government intervention in the financial sector was extensive. Public ownership of banks and other financial institutions, ceilings on deposit and lending rates, directed credit allocation, and controls on capital inflows and outflows, were pervasive. East Asia initiated the deregulation and liberalization of its financial system as a result of a widening domestic resource gap (as domestic savings proved to be insufficient to finance all investments in manufacturing, real estate or infrastructure) and/or its participation in international agreements and institutions (article VIII of the IMF; GATT, GATS and WTO; OECD in the case of Korea). As a result, ceilings on deposit and loan interest rates were lifted, direct credit control was abolished, and cross-border capital transactions were liberated from administrative limitations. Moreover, governments in the region eliminated restrictions on corporate debt financing and allowed for more competition in financial services. Foreign banks were authorized to buy and sell large amounts of foreign and domestic currency; as banking supervision was weakened, domestic banks borrowed heavily from abroad and lent recklessly; manufacturing companies became free to take out loans from domestic and foreign financial institutions; and the government abandoned coordination of borrowings and investments (see Amsden and Euh, 1997, for Korea). This made the economies more vulnerable to volatile and easily reversable capital flows, in a context of persistent current account deficits and of large short-term capital inflows. Moreover, excessively rapid financial deregulation increased the proportion of non-performing loans held by banks and other institutions. In fact, all East Asian economies implemented financial reform without establishing a comprehensive regulatory and supervisory framework. It seems paradoxical that some analysts have blamed East Asia's troubles to excessive state interference in the economy and to the existence of a "crony capitalism". In fact, in order to intermediate high private (household) savings into corporate debt, a cooperative, reciprocal and

long-term relation between firms, banks and the government is needed, without implying necessarily corruption or favoritism (Wade and Veneroso, 1998b). But this state guidance was exactly what was lacking in Southeast Asia since the late-1980s and in Korea since the early-1990s, due to an excessively rapid financial deregulation and, in more general terms, a too drastic domestic liberalization, both of which were vigorously pursued in the 1990s and reduced the government's ability to prevent market failures. Especially in the case of South Korea, the crisis was not due to excessive state's interference but, on the contrary, it has instead been a *crisis of underregulation*, as the government abandoned in the 1990s - albeit gradually - its traditional role of monitoring properly foreign borrowing and of coordinating investments (Chang, 1997 and 1998).

Several East Asian economies accumulated large foreign debts, especially in short-term liabilities. This was foremost the case of Indonesia and Thailand (table B8). Using data from table B11, short-term debt, as a proportion of total debt, was significant in Korea, Thailand and The Philippines (more than two-thirds of total debt), but not in Malaysia and Indonesia (around 50%). It seems however fair to conclude that the bulk of the East Asian economies used short-term foreign (and also domestic) debt to finance medium- and long-term investments.

Theoretical models of herding behavior (Calvo and Mendoza, 1996) stress that information-related costs and limitations may lead foreign investors to take decisions on the basis of inaccurate data and therefore to be more sensitive to rumors or to other agents' movements. According to the aforementioned report of the Institute of International Finance, net private capital flows to the five main East Asian economies amounted to US$ 93.8 billion in 1996 and to -US$ 6 billion in 1997, a swing of almost US$ 100 billion explained by a reversal of US$ 81 billion in bank loans and of US$ 18 billion in portfolio investments.

Moreover, the contagious character of the East Asian crises (from Thailand to The Philippines, Indonesia, Malaysia, Taiwan, and ultimately South Korea) may be explained by:

- spillover effects due to trade linkages, as a devaluation in one country leads its trading partners or competitors to devalue in order to avoid a loss in competitiveness (Gerlach and Smets, 1995);

- pure contagious effects, as investors, facing a crisis in one country, pay little heed to economic fundamentals and do not discriminate properly between countries with underlying weaknesses and countries without them (Masson, 1998).

Thailand and The Philippines are two examples of economies with high current account deficits combined with substantial currency appreciation. However, Indonesia did not suffer from the former, while Malaysia did not displayed the latter.

In South Korea, the indicators of an eventual crisis were only a large proportion of portfolio flows in total foreign capital flows (table B9) and a very large percentage of short-term debt in total external debt (table B11).

4. A Critical View of the IMF Remedies

4.1. The IMF programs: the case of South Korea

The IMF mistook the East Asian crisis as a traditional balance-of-payments problem, while in fact the turmoil reflected mainly a debt deflation process. As Kregel (1998a and b) pointed out, debt deflations (studied in the 1960s by H. Minsky, following I. Fisher in the 1930s) arise when companies, in order to repay their foreign currency debts, try to sell their assets, inventories or current outputs. This lowers the price of their potential sales while, at the same time, rising the demand for foreign exchange. High interest rates, in this context, may increase foreign currency demand more than its supply, contrary to conventional IMF's expectations. In order to assess the IMF's approach in dealing with the East Asian crises, some reflections on the case of South Korea are listed below.

In November 1997, the Korean government asked the IMF for financial help. The Fund organized a rescue package of US$ 57 billion, the largest in its history. The breakdown of this amount was as follows: US$ 22 billion from the main trade partners of Korea; US$ 21 billion directly from the IMF; US$ 10 billion from the World Bank; and US$ 4 billion from the Asian Development Bank (ADB).

The IMF's stand-by credit of SDR 15.5 billion (US$ 21 billion), which amounted to more than 20 times the Korean quota to the Fund, involved an austerity program and several structural reforms, with four main areas:

1. MACROECONOMIC POLICIES: in order to eliminate the current account deficit and to contain inflation to single digits in 1998, the government had to pursue stringent fiscal and monetary policies. Two main measures were attached to the IMF credit: (1) a package of tax increases and expenditure cuts, intended to render a small surplus in the budget balance in 1998 (from -0.5% of GDP in 1997), and to slow import demand; the IMF had initially demanded a fiscal surplus of as much as 1% of GDP but subsequently dropped this request; (2) a substantial increase in interest rates, in order the defend the currency, along with more governmental control on the expansion of the monetary supply, directed at controlling inflation.

2. FINANCIAL SECTOR RESTRUCTURING: strengthening prudential regulation by monetary authorities, revocation of licenses of several merchant banks, and rationalization of the commercial financial institutions;

3. CAPITAL ACCOUNT AND TRADE LIBERALIZATION: acceleration of financial opening, with full liberalization of the money market instruments, allowance of foreign investment in domestic financial institutions, authorization for foreign banks and brokerage houses to establish subsidiaries and elimination of ceilings on foreign investment in Korean equities; trade opening, which involved abolishing trade-related subsidies and liberalizing merchandise imports and foreign financial services.

4. LABOR MARKET REFORM: the labor market will have to be flexibilized, clarifying the circumstances and procedures for layoffs. Under the World Banks's US$ 10 billion Structural Adjustment Loan, the details of these measures have been discussed, in accordance with the Tripartite Accord reached between the government, the unions and the business community on February 6, 1998.

The restrictive macroeconomic policies resulted in a drop in domestic demand, as consumer demand decreased, due to adverse income and wealth effects, and as investment contracted sharply, as a result of very high interest rates. Together with the currency depreciation, this would certainly allow for a substantial amelioration in the trade and current account balances. It should be noticed that this amelioration, although positive in itself, has a also a negative side: e.g. more trade frictions with the Western trading partners of Korea, many of which have sizeable bilateral trade deficits.

In fact, the IMF-sponsored program had several important flaws. First, the restrictive character of the fiscal and monetary policies contributed to induce a deep recession. Did it make sense to impose an inmediate target of budget and current account surpluses and an inflation rate below double digits in an ecomomy mired in recession and extremely affected by a tremendous currency depreciation? Several analysts criticized this excessively austere measures, as they surely intensified the recession, increased the unemployment rate and triggered social unrest. On the fiscal side, as Radelet and Sachs (1998a: 29) have suggested, "it is not clear why government budgets were made so central to the [IMF's] programs, since fiscal policy had been fairly prudent accross the region, and budget profligacy was clearly not the source of the crisis. Moreover, while the Fund argued that fiscal contraction was necessary to reduce the current account deficit, there was no clear rationale provided for why additional contraction was necessary on top of the massive contraction that was already automatically taking place in the region. The fiscal targets simply added to the contractionary force of the crisis". The restrictive monetary policy relied on tightening the overall credit supply by the central bank and on rising interest rates, in order to defend the exchange rate and to control inflation. The first measure had an important pitfall, as it transmitted to short-term creditors that the function of lender of last resort traditionally performed by the central bank has been switched off. Very high interest rates were not only unable to stop runs on the currency. They also contributed to exacerbate financial problems in manufacturing companies (forced by the capital flight to transfer their foreign short-term financing to credits from domestic banks with higher rates), which led to more bankruptcies and a large increase in the exposure to bad loans in the banking sector.

Second, the financial and trade opening will surely prompt important difficulties in the banking and manufacturing sectors, which had been traditionnally protected against foreign services and goods. This is the case certainly of several financial institutions but especially of the Korean car industry, which in 1996 exported 900,000 units and imported only 11,000 (less than 1% of domestic demand).

Third, despite the Tripartite Accord between labor, government and business, it seems clear that a radical reform of the labor market, in order to lower the cost of layoffs, may trigger social unrest, especially as unemployment is deemed to increase sharply (it reached a rate of 7.5% in September 1998). It shoud be recalled that in early 1997 labor militancy forced the government to cancel a similar inititiative and that in late-May 1998 and in September 1998 several industrial disputes reemerged.

4.2. Policy lessons

The role of the IMF as a *crisis manager* in East Asia has been widely criticized, not only by its traditional opponents (Bullard, Bello and Malhota, 1998), but also by new - and unexpected - ones (Feldstein, 1998; Frankel, 1998; Sachs, 1998).

First, the Fund is not familiar with the East Asian economies, as it has dealt before mostly with Latin American countries. Even its *World Economic Outlook* of October 1997 predicted a 1998 GDP growth for Korea of 6% in 1998, while it is now clear that the country will register a negative figure (of at least -7%). The IMF's *Annual Report 1997* even praised the "soundness" of Korea's and Thailand's economic fundamentals.

Second, the IMF is treating on equal foot different situations, such as Mexico in 1994 (or even Thailand and Indonesia in 1997), on the one hand, and Korea in 1997-1998, on the other. The macroeconomic policies and the structural reforms suggested by the IMF are similar despite obvious different backgrounds such as: (1) high current account deficits, exchange rate pegs and very large external debts, like in Mexico in 1994 and in Thailand and Indonesia more recently; (2) low and declining current account deficits, cautious exchange rate managament and relatively low debt-service ratios, like in Korea in 1997-98. Moreover, the IMF's prescription seems to be totally independent from the state of economic fundamentals. Economies with budget surpluses (or small public deficits), high savings rates, low inflation and outward orientation, such as those in East Asia in the late-1990s, are equated with others afflicted with fiscal profligacy, low savings, high inflationary pressures and inward-oriented growth, such as Latin America in the 1980s. The IMF's requirements have been fairly similar in both cases, despite the obvious difference in the nature of their respective crises (private-related debt in Asia versus public-related debt in Latin America).

Third, the recessive impact of the excessively austere policies is especially important in economies with a long tradition of high and sustained growth (see again table 1).

Fourth, financial and trade opening, along the lines suggested by the IMF, will surely make East Asia more and not less vulnerable (Akyüz, 1998). For instance, although the IMF'short-term requirements were meant to stabilize the currencies and to restore market confidence, the reaction of international capital markets, after the *stand-by* agreements with Thailand, Indonesia, and South Korea, has been a clear sign of their mistrust. In Korea, for instance, between December 4, 1997 and January 8,

1998 the exchange rate increased from 1,170 *won* per dollar to 1,788 *won* per dollar. Moreover, on a longer term, demanding further trade and financial liberalizations, despite the fact that the crisis had been due, to a large extent, to excessively rapid openings in both areas, might render the economy more vulnerable to future crises.

Fifth, the IMF programs have a clear bias in favour of private international financial institutions, as foreign creditors are not urged to share their part of responsability in the crises, escaping instead unscathed. They are not even encouraged or suggested to roll over short-term debt into longer term instruments, a process which was simply left to eventual bilateral negotiations. This problem of *moral hazard*, inherent to the IMF's approach, has been widely acknowledged among specialists. As a main agent for bailing out, not national economies, but in fact foreign private creditors, the IMF could perfectly be accused of sowing the seeds of future crises. Private financial institutions, if assured that they will recover their loans, will continue to throw money recklessly in fragile economies.

5. Theoretical Implications

5.1. Models and predictors of currency crises

The East Asian financial crises of the late-1990s do not fit with the theoretical models of the *first-generation* and *second-generation* literature (see a review in Esquivel and Larrain, 1998 or in Flood and Marion, 1998). Obviously, they were not the result of a previous conflict between the exchange rate regime (of fixed parities) and the fiscal policies (expansionary in nature), as fiscal profligacy was clearly not the issue in East Asia. Moreover, although more recent models, with rational expectations, may appear to be more suitable than Krugman's *canonical* model, their main tenets have not been validated by the Asian episodes. According to the conventional *second-generation* models, market participants anticipate that a successful attack on the currency will alter policy and that the aforementioned conflict would occur. Out of concern for the increased cost of servicing their public debt and for the fiscal costs of bailing out the banking system, governments may choose, not to increase interest rates to defend the parity, but instead to float the currency. According to Obstfeld (1994), a country with relatively "good" fundamentals, such as a low public debt or a solid financial system, should never experience a currency crisis. However, Obstfeld (1995) acknowledges that unexpected external shocks or sudden changes in the macroeconomic environment may prompt governments to abandon the pegged exchange rate. Other *second-generation* models suggest that crises are totally independent from the position of fundamentals and that they may be the mere consequence of herding behavior in foreign financial markets (Calvo and Mendoza, 1997) or a result of a simple contagion through trade spillovers or markets' perceptions (Masson, 1998).

The East Asian crises call for an eventual *third-generation* model of currency crises, in which only modest (but notwithstanding real) deteriorations in fundamentals,

in a context of external stability, coexist with herding behavior in international capital markets and regional contagion (see Chang and Velasco, 1998a).

Furthermore, traditional indicators of future currency crises have to be reassessed after the Asian turmoils. According to Kaminsky, Lizondo and Reinhart (1998), the leading indicators, as historical evidence (prior to the Asian crises) suggested, were the following: low levels of international reserves; severe currency appreciation; high domestic credit growth; high proportion of credit to the public sector; high domestic inflation; deterioration in the trade balance; declining export performance; excessive money growth; low ratios of international reserves to narrow money; deceleration in real GDP growth; and rising public deficits. Of these eleven indicators, only up to four apply to the East Asian case: currency appreciation (although this was not the case of Malaysia and South Korea); reversals in the trade balance; declining export performance; and excessive money growth (also not the case of Korea and Indonesia).

5.2. Financial liberalization in emerging economies

One of the main lessons of the East Asian financial crises is that imprudent and unproperly sequenced financial liberalization increases vulnerability to speculative attacks. As already discussed, good macroeconomic fundamentals are a very important necessary condition for avoiding currency crises, albeit not a sufficient one. Additional measures are needed, such as strenghtening domestic financial systems and encouraging gradual liberalization of capital flows.

In order to foster the domestic financial system, improving regulation and supervision and increasing transparency are necessary steps. Governmental supervision and prudential regulation should be aimed at creating management competence, effective risk-control systems, adecuate capital requirements, lender-of-last-resort facilities, supervisory authorities with sufficient autonomy, authority, and capacity, and control of cross-border banking (Griffith-Jones, 1998). Moreover, transparency, through improved information disclosure and data dissemination, may help in discouraging banks' excessive risk taking and rent-seeking behavior (Bosworth, 1998).

Financial liberalization in developing economies should be attempted only after achieving macroeconomic stability, trade liberalization and solid financial systems. It should also be prudent and phased. Domestic financial deregulation in a context of inadecuate supervision and prudential regulation is a recipe for increased vulnerability to extremely dangerous short-term and potentially reversible capital flows. Moreover, financial opening (that is, pursuing capital mobility) before establishing a sound domestic financial system is prone to render large vulnerabilities, as economic agents tend to borrow abroad, at low interest rates, to lend at home, at high interest rates.

As Bosworth (1998: 10) has concluded, "emerging markets should still aim for integration with the global financial system, but they must give themselves time to build the infrastructure to support that goal. They should give a high priority to financial-system reform, while also actively discouraging short-term capital inflows and

carefully monitoring the foreign currency exposure of domestic economic agents. Full capital mobility is the last stage in a complex process of financial liberalization and growth".

5.3. The dangers of global financial capital

Short-term and potentially reversible capital inflows are likely to adversely affect developing economies. As Griffith-Jones (1998) has pointed out, they tend to alter important macroeconomic variables, such as exchange rates and asset prices. Moreover, they present a high risk of very sharp reversals. A massive and sudden reversal in those flows, as the Latin American and East Asian experiences clearly suggest, provokes a dramatic reduction in absorption in recipient countries, while, at the same time, triggering currency crises, with large devaluations and substantial increases in interest rates. Moreover, crises in the foreign exchange market tend to be associated with massive banking problems and thus to a sharp contraction in bank lending.

Regulating and taxing foreign short-term flows (both bank loans and portfolio investments) seem to be necessary steps in order to avoid this disruptive process. At a national level, attemps at taxing and requiring non-remunerated reserves on flows during a fixed period, as those accomplished in Chile or Colombia in recent years, have shown some success. Taxes and reserve requirements intend to: (1) change the structure of capital inflows, towards a higher proportion of foreign direct investment, long-term banking loans, and bonds; in this context, equity and long-term bond financing may shield developing economies from sudden stops in international credit flows (Calvo, 1998); (2) increase the autonomy of domestic monetary policies, as establishing high interest rates to curb inflation does not, in this context, attract excessive capital flows; and (3) avoid large currency appreciations and thus their negative impact on the trade and current account balances.

International measures to encourage more stable capital flows to developing countries may include multilateral and/or source country regulation and supervision on short-term bank loans and on easily reversible portfolio investments. For instance, narrowing capital adecuacy weighting differentials in short-term loans to emerging economies, or, in the in case of institutional investors (such as mutual or hedge funds), requiring risk-weighted cash reserves, placed as interest-bearing deposits in commercial banks, have been proposed (Griffith-Jones, 1998). Moreover, after the Mexican crisis of 1994-1995 and the East Asian turmoils in 1997-1998, proponents of a Tobin tax (an international uniform tax on spot transactions in foreign exchange) have gained substantial arguments.

6. The Impact on the World Economy

Growth prospects for 1998 and 1999 have been substantially affected by the Asian crises. According to *The Economist*'s October poll of forecasters, GDP growth

will probably not surpass 3.4% in 1998 and 1.9% in 1999 (after a robust 3.8% in 1997) in the United States, whose trade with East Asia amounts to a fifth of its total total (and 2% of its GDP). The European Union, whose economies are focused on meeting EMU requirements, will see some deceleration (from 2.7% in 1997 to 2.4% in 1998 and to 2.1% in 1999). Japan will surely suffer a recession in 1998 (-2.3%) and stagnate in 1999 (-0.2%), after growing only 1% in 1997.

A weaker or even negative contribution from net exports to growth, together with the adverse wealth and income effects of stockmarkets' instability, might be the main reasons of this deceleration in growth among developed economies.

The impact of the Asian crises on Western economies have (and will) presumably been felt in three phases.

Firstly, as international investors repatriate their capital from Asia and Asian investors proceed to a *flight to quality*, interest rates in Western Europe and the US tend to decrease, pushing up stock indexes. This seems to have been the experience in Europe and the US in the first half of 1998. Interest rates in the EU decreased, in July 1998, to an all-time low since World War Two. Stockmarkets reached a ceiling in mid-1998.

Secondly, the financial bubble created by this sudden capital inflows tends to burst, especially when confronted to external - Russian and Latin American - difficulties. In August 1998, the Dow Jones Industrials Index decreased a staggering 15%, and the main European stock indexes also registered losses.

Thirdly, in the last quarter of 1998 and in 1999, the impact will probably be more intense. Despite low prices of oil and other commodities, and also presumably lower interest rates, some adverse effects will eventually appear. As exports to Asia decline, while imports from the region increase, especially due to currency depreciations and weak domestic demand in the area, the contribution of foreign trade to GDP growth tends to be weaker or to become eventually negative. Moreover, if stockmarkets' instability continues, some wealth and income adverse effects might decelerate domestic consumption. Especially in the US, misalignments between large companies' stock values and their results in Asia may prompt some losses in stock indexes. Furthermore, as US private consumption has been fueled, not only by rising employment and real incomes, but also by a large indebtedness in households (85% of their total income) and a very low savings rate (only 4% of their disposable income), even small reductions in income or in bank lending can lead to sudden cuts in consumer spending. As far as private investment is concerned, losses in multinational companies' facilities in Asia may trigger a contraction of investment in their home countries, despite lower interest rates.

East Asia's expected export boom, which has been contained, up to the present, by a credit crunch, will eventually lead to large increases in the US trade deficit and to a drop in EU's trade surplus.

In Western Europe, low inflation rates, firmly controlled budget deficits, corporate restructuring and, foremost, the introduction of the Euro, together with low oil prices and interest rates, and large inflows of risk-averse international capital, may

shield the EU from the more adverse effects of the Asian crisis. In the US, the evolution in the stockmarket and the foreign trade figures in late-1998 and 1999 will be essential predictors of an eventual economic downturn. The Federal Reserve's decision to lower interest rates in late-September 1998 and again in mid-October 1998 might be interpreted as the expression of some pessimistic fears.

Conclusions

The analysis of the East Asian financial crises is a challengy but necessary task. The Asian turmoils, which erupted in 1997, represent a new kind of crises, different in many aspects to those depicted in the *first-generation* and *second-generation* literature on currency crises in developing countries. This might explain why the Asian episodes were largely unpredicted. It also calls for a *third-generation* theoretical model of currency crises and for a new set of indicators or predictors.

The Asian crises highlight the importance of sound macroeconomic policies and, especially, the need to avoid large current account balances in a context of substantial real currency appreciation. But the preceding analysis has tried to show that these were not the main culprits of the crises in East Asia, except, and only partially, in Thailand and Malaysia. Instead, the paper has insisted on adverse non-conventional indicators such as overinvestment, imprudent domestic financial liberalization and capital account opening, and accumulation of a large foreign debt (mainly private, short-term, denominated in foreign exchange, and largely unhedged).

One of the main lessons of the Asian crises has been that imprudent and unproperly sequenced financial liberalization in emerging economies increases their vulnerability to speculative attacks. Domestic financial deregulation should be attempted only after creating an adequate supervisory and prudential regulatory framework. Moreover, financial opening should follow, and not precede, the strenghtening of the domestic financial sector. More precisely, regulating and taxing short-term and potentially volatile international capital flows seem to be necessary steps in order to avoid disruptive processes in an otherwise sound macroeconomic environment.

Turning now to the international implications of the Asian crises, the role of the IMF as a manager of the turmoils has been widely criticized. It seems that the IMF is unable to deal with financial crises in the present era of financial globalization. Therefore, a reassessment of its functions and programs in developing economies is surely needed. Moreover, several international measures to encourage more stable capital flows to emerging markets (such as regulating and supervising short-term bank loans and portfolio investments) should be explored in order to reduce international financial fragility (Singh, 1998).

As the World Bank has recently acknowledged, the initial response to the Asian crisis has clearly failed, especially because combining very high interest rates with strict fiscal restraints has intensified the recession in the region. Interest rates should be

allowed to fall and a concerted fiscal stimulus should be undertaken, in order to spur growth and to alleviate the expected increase in poverty (World Bank, 1998).

But there are other reasons to reject traditional recipes of deflation and deregulation. These measures also jeopardize the foundations of the East Asian developmental path, which, especially in economies such as South Korea and Taiwan, has been based upon a large state intervention (Lall, 1996) and upon a strategic (rather than close) integration with the world economy (Singh, 1995 and 1998). If the East Asian *model* was successful, and thus so appealing to other developing economies, it was precisely because it departed substantially from the so-called *Washington Consensus* on development issues, a view which the World Bank has already rejected (Stiglitz, 1998a). The real danger of the Asian crises is that, if a change of approach is not undertaken on national and international levels, a very successful path towards industrialization and economic and social development might, not only be fully at risk, but simply disappear.

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Statistical Appendix

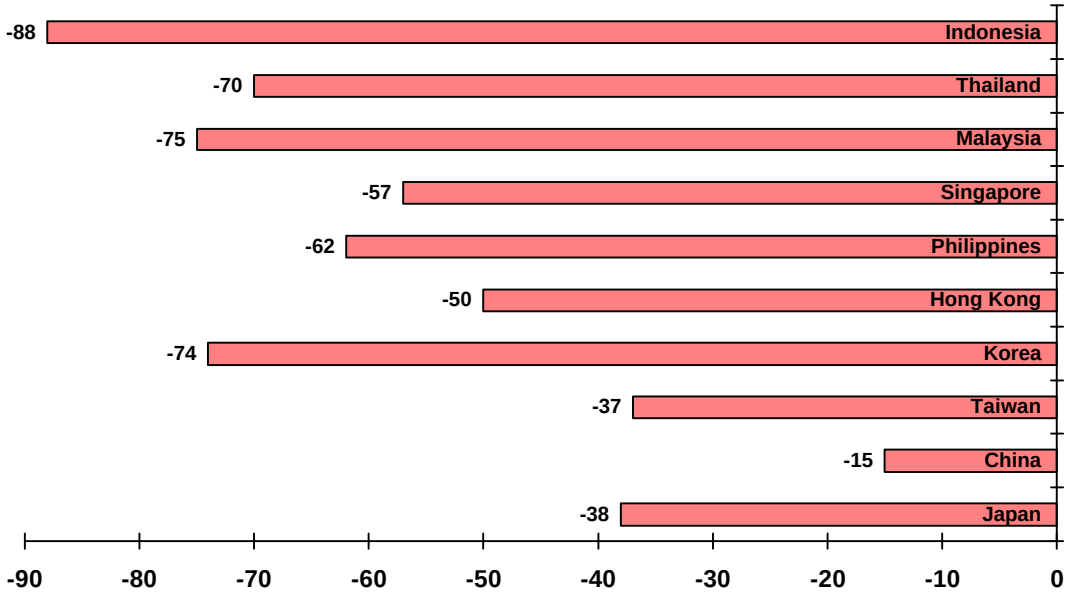
A. Consequences of the Asian crises

Table A1. Currency depreciations in East Asia, 1997-1998 (units of domestic currency per US dollar)

	5 Jan. 1997	5 Sept. 1997	5 Jan. 1998	28 Sept.1998
Yen (Japan)	116	122	133	136
Won (S. Korea)	845	914	1.820	1.384
NT $ (Taiwan)	27.5	28.5	33.2	34.5
HK $ (Hong Kong)	7.7	7.7	7.7	7.7
S $ (Singapore)	1.4	1.5	1.7	1.7
Ringgit (Malaysia)	2.5	3.3	4.0	3.8
Rupiah (Indonesia)	2,836	3,810	7,350	10,850
Baht (Thailand)	25.6	36.8	50.2	39.2
Peso (Philippines)	26.3	34.9	41.7	43.8

Source: *Far Eastern Economic Review*, various issues.

Figure A2. Stockmarket indexes, 1997-1998 (performance, in percentages, over June 29, 1997 and June 29, 1998), based on DJ Global Indexes.



Source: *Far Eastern Economic Review*, July 9, 1998.

Table A3. GDP changes in East Asia, 1996-1999f

	1996	**1997**	**1998e**	**1999f**
Hong Kong	4.9	5.3	-4.8	-2.0
Indonesia	8.0	5.0	-15.9	-4.4
Malaysia	8.6	7.8	-5.5	-0.5
Philippines	5.7	5.1	-0.1	1.0
Singapore	6.9	7.8	-0.3	-0.7
South Korea	7.1	5.5	-6.9	-0.2
Taiwan	5.7	6.9	4.5	4.3
Thailand	6.7	-0.3	-8.2	-0.7

Estimates for 1998, and October 1998 forecasts for 1999.
Sources: IMF and *The Economist*'s October poll of forecasters (October 17th, 1998).

B. Indicators of the economic background

Table B1. Inflation rates in East Asia, 1994-1997 (%)

	1994	1995	1996	1997
Hong Kong	8.1	8.7	6.0	6.5
Indonesia	8.5	9.4	7.9	6.6
Malaysia	3.7	3.4	3.5	2.7
Philippines	9.0	8.1	8.4	5.1
Singapore	3.1	1.7	1.4	2.0
South Korea	6.3	4.5	4.9	4.3
Taiwan	4.1	3.7	3.1	0.9
Thailand	5.1	5.8	5.9	5.6

Source: IMF and, for Taiwan, CBC.

Table B2. Budget balances in East Asia, 1994-1997 (% of GDP)

	1994	1995	1996	1997
Hong Kong	1.3	-0.3	2.2	4.2
Indonesia	0.0	0.8	1.4	2.0
Malaysia	2.5	3.8	4.2	1.6
Philippines	-4.6	-4.4	-4.7	-4.5
Singapore	13.7	12.0	8.4	8.3
South Korea	1.0	-1.1	-1.4	-0.5
Taiwan	0.2	0.4	0.2	0.2
Thailand	2.0	2.6	1.6	-0.4

Source: IMF and ADB.

Table B3. Public debts in East Asia, 1993-1996 (% of GDP)

	1993	1994	1995	1996
Hong Kong	n.a.	n.a.	n.a.	n.a.
Indonesia	37.5	36.6	30.9	24.1
Malaysia	59.3	50.1	42.8	n.a.
Philippines	67.1	56.4	n.a.	n.a.
Singapore	n.a.	n.a.	n.a.	n.a.
South Korea	10.9	10.0	9.0	8.6
Taiwan	n.a.	n.a.	n.a.	n.a.
Thailand	8.4	5.8	4.7	3.7

Source: IFS.

Table B4. Savings rates in East Asia, 1994-1997 (% of GDP)

	1994	**1995**	**1996**	**1997e**
Hong Kong	33.1	31.0	31.0	33.7
Indonesia	31.9	31.4	33.7	35.2
Malaysia	35.5	36.4	38.8	41.2
Philippines	19.0	19.0	20.5	21.0
Singapore	49.2	49.9	49.7	51.3
South Korea	35.2	36.2	35.4	34.7
Taiwan	26.7	26.4	26.0	26.5
Thailand	35.2	35.0	35.3	35.6

Source: ADB (figures for 1997 are preliminary estimates).

Table B5. Investment rates in East Asia, 1994-1997 (% of GNP)

	1994	**1995**	**1996**	**1997e**
Hong Kong	31.9	34.5	32.0	32.9
Indonesia	33.7	34.8	37.7	39.2
Malaysia	42.5	45.4	45.1	45.6
Philippines	23.5	21.6	23.9	25.5
Singapore	32.3	33.0	34.8	33.8
South Korea	36.3	37.4	36.5	36.2
Taiwan	23.6	23.4	21.2	21.6
Thailand	42.0	44.2	43.8	44.1

Source: ADB (figures for 1997 are preliminary estimates).

Table B6. Foreign exchange reserves, 1993-1996 (in US$ billion)

	1993	**1994**	**1995**	**1996**
Hong Kong	43.0	49.3	55.4	63.8
Indonesia	11.2	12.1	13.7	18.2
Malaysia	27.2	25.4	23.7	27.0
Philippines	4.6	6.0	6.3	10.0
Singapore	48.4	58.2	68.7	76.8
South Korea	20.2	25.6	32.6	34.0
Taiwan	83.6	92.5	90.3	88.0
Thailand	24.4	29.3	35.9	37.7

Sources: IMF and, for Taiwan, CBC.

Table B.7. International reserves/M2

	1993	1994	1995	1996
Hong Kong	n.a.	n.a.	n.a.	n.a.
Indonesia	0.00164	0.00153	0.00141	0.00154
Malaysia	0.00478	0.00405	0.00300	0.00299
Philippines	0.00204	0.00206	0.00171	0.00222
Singapore	n.a.	n.a.	n.a.	n.a.
South Korea	0.00145	0.00155	0.00164	0.00154
Taiwan	n.a.	n.a.	n.a.	n.a.
Thailand	0.00247	0.00260	0.00271	0.00256

Source: BIS and own calculations.

Table B.8. Official foreign exchange reserves as months of imports, 1993-1997

	1993	1994	1995	1996
Hong Kong	10.1	10.0	9.1	10.9
Indonesia	7.5	6.2	5.0	5.5
Malaysia	6.2	4.5	3.3	n.a.
Philippines	2.7	2.8	2.3	n.a.
Singapore	6.3	6.3	6.1	6.5
South Korea	2.5	2.6	2.5	2.3
Taiwan	13.0	13.0	10.5	10.3
Thailand	5.5	5.5	5.3	5.4

Source: UN ESCAP and, for Taiwan, CEPD..

Table B.9. Composition of net capital inflows in East Asia, 1996, and Latin America, 1993 (US$ billion and percentages)

	Thail.	Indon.	Mal95	Singap.	Korea	Mex93	Braz93
PI*	3.6	1.9	-0.4	1.3	16.9	28.9	12.9
	(40.9%)	(18.1%)	(-9.3%)	(7.0%)	(53.7%)	(78.5%)	(107%)
BL**	2.9	0.7	0.5	8.0	12.3	4.3	-2.2
	(33.0%)	(6.7%)	(11.6%)	(42.8%)	(39.0%)	(11.7%)	(-18%)
FDI***	2.3	7.9	4.2	9.4	2.3	3.6	1.3
	(26.1%)	(75.2%)	(97.7%)	(50.3%)	(7.3%)	(9.8%)	(11%)
Total	8.8	10.5	4.3	18.7	31.5	36.8	12.0
	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)

*: Portfolio investment; **: Bank loans; ***: Foreign direct investment.

Sources: Chinn and Dooley, 1998, and own calculations.

Table B.10. Foreign debt (as % of exports), 1990-1996

	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
Indon.	234	237	230	213	232	234	221
Malay.	44	43	43	48	43	40	42
Philipp.	230	219	187	187	163	119	98
Thail.	90	100	97	106	112	121	121

Reminder: Argentina: 542 (1989) and 296 (1996); Brazil: 294 (1989) and 294 (1996).
Sources: BIS.

Table B.11. Short-term debt as proportion of total foreign debt, 1990, 1994, and 1997

	June 1990	**June 1994**	**June 1997**
Indonesia	51.6	61.1	59.6
South Korea	66.4	72.5	67.8
Malaysia	25.6	59.1	56.4
Philippines	33.3	44.1	65.6
Thailand	60.1	74.2	65.6

Source: BIS.

Table B.12. Real effective exchange rates (1993 = 100)

	1994	**1995**	**1996**	**1997**
Hong Kong	108.2	110.4	116.2	129.9
Indonesia	103.9	110.8	125.5	92.4
Korea	100.4	106.1	106.3	83.2
Malaysia	98.0	98.7	103.2	84.8
Philippines	116.3	117.7	124.0	107.4
Singapore	104.7	106.2	109.7	110.5
Taiwan	98.6	96.8	99.1	92.7
Thailand	98.9	102.3	107.8	81.5
Mexico	80.9	63.9	79.1	87.8
Argentina	95.2	96.4	100.6	107.2
Brazil	126.1	112.1	115.5	124.6
Chile	106.6	107.2	114.0	118.4

Sources: OEF, J.P. Morgan and own calculations.