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# CHINESE MERCANTILISM: CURRENCY WARS AND HOW THE EAST WAS LOST

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# Foreword

The Asian financial crisis has generated a lot of research, analysis and debate. The exact causes of the crisis are not firmly established, although various hypotheses have been offered. This paper presents one view of the genesis of the East Asian crisis. Several explanations are examined: managed exchange rates, over and undervalued currencies, crony capitalism, asset bubbles, Japanese devaluation, or “too much” capital account liberalization.

A large part of the analysis centers around the proposition that the regime of managed exchange rates was at the core of the problem. In addition, the paper offers an additional contributory cause of the crisis - China’s mercantilist policy. The role of the international system in allowing China to devalue its currency (by over 50 percent), despite burgeoning trade surpluses, is also addressed. The paper also explores the question of whether the Chinese economy needed any devaluation in the early nineties.

I have no doubt that this paper will provoke debate and contribute to a better understanding of an issue which is occupying the minds of most policy makers around the world.

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# CHINESE MERCANTILISM : CURRENCY WARS AND HOW THE EAST WAS LOST

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## 1. INTRODUCTION

The world changed on July 2, 1997 when Thailand floated the baht. Explanations abound on the origins of the crisis - indeed it is a growth industry. This study is part of that explosion. It has several objectives. Identification of the *causes* of the crisis is the most important goal. Why did it happen ? Why did the contagion happen ? What went wrong ? Was the East Asian miracle a mirage ? If causes are correctly identified, the correct policy response is expected to follow. If not, then developing countries may embark on another lost decade.

A large part of the analysis centers around the proposition that the regime of fixed, quasi-fixed, managed exchange rates was at the core of the problem. In addition to managed exchange rates, the paper offers an additional contributory cause of the crisis - China's mercantilist policy. The role of the international system in allowing China to devalue its currency (by over 50 percent in the early nineties), despite burgeoning trade surpluses, is also addressed. This two cause hypothesis is an *ex-post* one, and one that does not exclude other contributory factors. Over-investment (actually an outcome of the above two factors) played a part, as did property price booms.

The analysis suggests a presence of "currency" wars. It is probable that the East Asian policymakers at least partially *welcomed* the Thai crisis because it allowed them to get out of the straitjacket of fixed exchange rates - and, like US with Japan a decade earlier (Plaza agreement), allowed them to be competitive once again. A twenty something devaluation was common in the previous three decades and the policymakers probably felt that the devaluation could be beneficial, and handled without a crisis. Indeed, Taiwan stated as much when they said that for "competitive" reasons it was going to let the currency depreciate from its managed level of 28 NT/dollar (and it allowed the Taiwanese dollar to depreciate by about 25 percent). However, markets are difficult to control, much more so in today's capital flow world. The situation got out of hand and a "welcome" devaluation turned into a crisis. The fact that a crisis did occur does not negate the logic that *a priori*, the devaluation was desired (and planned?) by countries of East Asia.

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[1] President, Oxus Research and Investments, New Delhi. This paper has greatly benefitted from useful comments made at a seminar held at ICRIER, New Delhi on 31.7.98 and is a revised version of the draft presented at that Seminar.

The role of China's devaluations (the 1990-93 devaluation was the last salvo - the yuan had already depreciated by close to 200 percent in nominal terms, and close to 100 percent in real terms by the time of the "last" 90-93 devaluation) in "messing" up the East Asian fixed exchange rate "agreement" should not be underestimated. If most countries have their currencies fixed, and overvalued, there is a consumer loss all around, but there is little possibility of a crisis - or a currency war. Several implications for exchange rate policies in developing countries follow from the analysis of the crisis. First, countries are unlikely to create the climate for a future currency war. Therefore, less fixed or more floating exchange rates will be the norm; the latest conversion of Brazil to this new reality is a confirmation of this trend. This also implies that the movement towards capital account convertibility in developing countries is inexorable and inevitable. Most Asian and Latin American and Eastern European nations have their currencies significantly more convertible today than in June 1997, the date prior to the onset of the crisis.

Second, that China, having helped to create the "crisis", is unlikely to devalue anytime soon. This is based on an additional reason - according to calculations presented in *Developing Trends* (1998) the Chinese yuan is today under-valued with respect to the dollar by about 10 to 15 percent. This forecast of a "no devaluation" of the Chinese yuan incorporates political realities. (The Hong Kong peg is a different issue and the Chinese may under the guise of exchange rate unification (again!) devalue the Hong Kong dollar to the $-yuan rate of 8.3 from the 7.75 HKD/US at present). International politics (particularly US) may be an important force in determining exchange rate policies in developing countries. And it is precisely an extension of this politics which leads to the conclusion that China will not devalue as a *quid-pro-quo* to the US for allowing it to pursue a mercantilist policy in the nineties.

Other implications also follow from this forecast. Without a Chinese devaluation, the East Asian economies will be able to recover faster, and the world can move towards a more level playing field. Capital account convertibility will likely accelerate, and bring with it reduced real interest rates, and higher growth in developing countries. And all without the imposition of old-new schemes to control capital flows (Tobin tax) and without new global institutions to supplant or replace the IMF.

The paper is organized as follows. Section 2 looks in detail at the argument that the Chinese devaluation was not important in causing Crisis '97. The arguments, and data, are examined in detail; the conclusion - Chinese devaluation was critical in reducing the competitiveness of the East Asian economies. Section 2 also documents the mercantilist policies of China. Section 3 looks at other, more common, explanations of the crisis. Section 4 outlines the development of the crisis and Section 5 concludes.

## 2. CHINA, DEVALUATION, AND MERCANTILISM - SEEDS OF A CRISIS

Most commentators agree that managed exchange rates were a major cause of Crisis '97, though the desire by some for a re-imposition of capital controls suggests that the economic house is still divided. Operation of a managed exchange rate, is, after all, a form of capital control. A legitimate question arises - if controls were a major part of the problem, how can they now be a significant part of the solution?

The earliest commentators (Bergsten (1997), Bhalla(1997), Makin(1977), and the *Economist* (1997)) suggested that China's devaluation of its currency by 50 percent on Jan. 1 1994, was a major contributory cause of the East Asian devaluations. This view seems to be accepted by most market participants, though not necessarily by most economists. The market takes it for granted that an additional Chinese devaluation would deliver a knock-out blow to world stabilization efforts, and lead to a new currency war. Hence, the market *implicitly* believes that the 90-93 Chinese devaluation caused the 1997 East Asian crisis.

The IMF was among the first to question the China devaluation thesis, and it did so in a footnote in the *World Economic Outlook* of Dec. 1997.

"It has been argued by some observers that the devaluation of the Chinese yuan at the beginning of 1994 also had a significant adverse effect on the competitiveness of Southeast Asian economies. In terms of the U.S. dollar, the unification of the yuan implied a devaluation of the official rate by 50 percent, which is comparable to the yen's depreciation between mid-1995 and mid-1997. However, since by late 1993 a large part (estimated at 80 percent) of foreign exchange transactions were already essentially carried out at the swap market rate, the effective depreciation is estimated to have been less than 10 percent….*The yuan's devaluation therefore had a much smaller impact on these countries international competitiveness than the depreciation of the yen during 1995-1997*. In fact, structural reforms in China may have been a more important source of improvements in its international cost competitiveness in recent years; these may be inadequately reflected in real exchange rate data and may have affected the trade performance of China's Asian competitors significantly" . (footnote 4, page 7, IMF(1997), italics added).

While rejecting the China devaluation hypothesis, the IMF offered the hypothesis that the devaluation of the yen, from mid-1995 onwards, may have been responsible for the East Asian crisis. The *Economist* also echoed the view that the China devaluation was not relevant.

"A misunderstanding of recent history may have caused those worries to be overdone.. Some commentators (including *The Economist*) have contended that China's last devaluation, in 1994, hurt its neighbours' exports, which inexorably led to this years traumatic devaluations. This analysis, however, ignores the fact that China's devaluation, an impressive 50 % on paper, amounted to less in fact. Prior to 1994 China operated two exchange rates; while the official rate was sharply devalued, the rate at which four-fifths of China's foreign trade was conducted barely changed at all. So South-East Asia's 1996 slump cannot be blamed on China's 1994 devaluation." (p.83, Dec. 13, 1997, emphasis added).

The World Bank, in its "official" response to the crisis (World Bank, 1998), did not mention the Chinese devaluation as a possible cause; nor did it contend that the East Asian currencies were overvalued in 1997.

A detailed analysis of the hypothesis that China's devaluation was unimportant was offered by three economists at the International Division of the Federal Reserve Board of the US. In a study entitled "*Was China the First Domino ? Assessing Links between China and the Rest of Emerging Asia*", (March 1998) authors Fernald, Edison and Loungani (hereafter referred to as FEL) contend that "the devaluation was not economically important: the more relevant exchange rate was a floating rate that was not devalued, and high Chinese inflation has led to a very sharp real appreciation of the currency". FEL present evidence on export shares of China and its competitors from 1993-1997 to support their conclusion. Incidentally, while rejecting the Chinese devaluation thesis, the authors do not provide an explanation for why the East Asian crisis occurred.

**a. The Data**

The debate on the effects of Chinese devaluation has helped to highlight the large discrepancies in the trade data. Exports and imports data as revealed by (*own*) national accounts data of individual countries (and reported in IMF *International Financial Statistics*, (IFS)) differ, sometimes radically, from the data reported by *recipient* countries, and reported in a sister publication of the IMF, *Direction of Trade Statistics* or (DOTS). Using discrepancies in own and recipient country data, Bhalla(1995) warned, as early as April 1995, of the undervaluation of the Chinese yuan and the effects of such undervaluation on Chinese competitiveness and Chinese trade surpluses.

There are very large differences in trade data as reported by China the exporter and as reported by recipient countries with recipient country data showing exports to be about 60 per cent higher. Imports are also higher but by a much lower percentage (see Table 1). The Chinese data suggests a large deterioration in the trade account from 1990 to 1993 - the trade account moves from a surplus of $ 9 billion to a deficit of $ 11.9 bn. Using *recipient* country data, the trend is opposite - a large trade surplus in 1990, $40 billion, turns even larger in 1993 - $

49 billion. Incidentally, China is one of the few countries (detailed investigation is in progress) to have such large differences between own and recipient country accounts. Even FEL, whose thesis is that the devaluation was not important, argue in favor of using recipient country data. Our thesis, that the devaluation was important, also prefers recipient country data.

**b. The Evidence**

Background data on the Chinese economy in the nineties is reported in Table 1. *Three* exchange rates are reported - the official exchange rate, the theoretical parallel exchange rate for exporters, and a weighted exchange rate reflecting the *actual* rate faced by exporters. The differences in the latter two rates reflects the operation of the dual exchange rate system whereby exporters were allowed to keep approximately 70-80 percent of export proceeds.

This table substantiates the proposition that the devaluation on Jan. 1 1994 was not actually equal to the nominal 50 percent devaluation (from 5.8 yuan to 8.7 yuan) but rather a smaller 7 percent (8.1 to 8.7). (Note that the table reports end-period data while the devaluation took place on Jan 1 1994 when the official exchange rate changed from 5.8 to 8.7 yuan). However, this valid point is fundamentally *trivial* and pertains to the specification of the exact date of the devaluation. In addition, there are major problems with this (trivial but correct) technical objection. The Chinese devaluation was not a one-off affair but rather a continuous process over the preceding few years, a point noted by FEL as well (also see Mehran et. al. (1996)). If the occasion of devaluation is shifted from Jan. 1, 1994 to just six months earlier i.e. June 1993, then the effective exporter devaluation was 16 % and if shifted to mid-1992, the devaluation for exporters was a high 35 percent. Since the discussion is about the loss in competitiveness of Asian economies post 1993, the exact timing of "when" prior to Jan. 1, 1994 is of relatively little consequence. In any case, most analysts agree that export markets react with a lag to exchange rate changes.

While the (ex) free falling Indonesian rupiah made these thirty something devaluations insignificant, it should be emphasized that historically, such devaluation magnitudes are high. India devalued by only 20 percent in 1991, and that was considered far reaching. Further, as shown in Table 2, this Chinese devaluation was in the context of either stable or *appreciating* exchange rates in South - East Asia.

**c. Genesis of the Crisis - Did China need to devalue the yuan in 1991-93 ?**

Before discussing the *consequences* of the Chinese devaluation, an earlier question needs to be addressed: did the Chinese economy require the stimulus of a devaluation in 1990 to 1993 ? According to figures reported in Table 1, the answer seems to be an overwhelming NO. The preceding five years (1985 to 1989) the Chinese economy grew at an *average* growth rate of 9.5 % per annum

with inflation at a high 14 percent; inflation then collapsed to a 4 % rate 1991-1993, and economic growth remained high at 9 percent. Trade surpluses were most likely reflecting a large under-valuation of the yuan; such surpluses had exactly doubled from $ 40 billion per year 1985-89 to an average of $ 80 billion during 1990-1993. With such robust statistics, most economists would not have advocated an expansionary devaluation policy. However, China continued to devalue from 1990 to end-1993 and the World Bank had this to say in its glowing China 2020 report published in mid-1997: "Perhaps most important, the government maintained a realistic exchange rate policy. It almost halved the exchange rate at the outset of reforms and devalued the currency on four later occasions" (World Bank, 1997a, p. 10, emphasis added).

**d. The Importance of Chinese Devaluation**

Economists make two arguments *against* the hypothesis that the Chinese devaluation played a contributory role. First, it is pointed out that China did not devalue, the exchange rate was only *unified, not devalued*. Second, that the 50 percent devaluation that *did* occur from 1990 to 1993 did not hurt East Asia because all these countries increased their export share in the "nineties". Both these objections to the "China devaluation is important" thesis are examined in detail below.

There is a curious aspect to the view that the Chinese mega-devaluation (from 1990-1993) was irrelevant. Most economists recommend devaluation for redressing trade deficits - it helps increase exports and decrease imports. (As shown below, not only did China not have trade deficits, it had huge trade surpluses *prior* to the devaluation.) It is reasonable to expect, therefore, that an increase in China's "trend" exports, and a decrease in its "trend" imports, would cut into the export share of its competitors. Hence, if the textbook consequences of a devaluation were to occur, then it is likely that China's competitors were hurt. The debate about the importance of Chinese devaluation centers on data, and its interpretation. There are aspects where there is general agreement i.e. recipient country trade data should be used rather than national data – this because of vast differences in the two, especially for China. There are centers of conceptual agreement as well – the competitors are correctly identified as the East Asian neighbours, and trade performance (rather than GDP growth, or inflation, or interest rates etc.) is the correct barometer. But even on agreement, there can be differences. For example, should the competitors be the Asean4 countries (Indonesia, Malaysia, Philippines and Thailand) or should they be the Asean7 countries (above four plus Korea, Singapore and Taiwan)? On trade, should only export data be examined, or both exports and imports? If the latter, then trade imbalances (surpluses and deficits) become an important criterion.

There are areas of disagreement as well (between economists and between the analysis contained here and in FEL). Should China be considered as the

comparator (this paper), or should it be Greater China i.e. China plus Hong Kong (as preferred by FEL)?

Yet another important consideration for analysis is the time-period chosen. China's devaluation for exports was a continuous affair between 1990 and 1993. When the exchange rate unification occurred on Jan. 1, 1994, importers were confronted with a 50 percent devaluation. So for exports, the proper time-period of analysis is 1990 to 1997, and for imports 1993 to 1997. The end-point is dictated by the onset of the crisis in July 1997; in the data presented in this paper, the 1997 data are for end-June 1997 i.e. the data has been annualized for 1997 according to data for the first two quarters.

Given the large set of combinations of data possible, Charts 1-3 and Tables 1-8 contain data on all the combinations reported above. This over-presentation of data is necessary because of the importance of the question, and the differences in the results. Fernald-Edison-Loungani (and the IMF) conclude that the Chinese devaluation was unimportant – using the same data, we reach a completely opposite conclusion – the Chinese devaluation was a critical cause of the East Asian crisis.

The reader can make up her own mind as to what set of assumptions are necessary to examine the economic implications of the China devaluation. A readers guide to the three major differences between the Fernald-Edison-Loungani and our analysis of China's and East Asia's trade performance is as follows.

**(i) China vs. Greater China data**

FEL prefer to use data for Greater China while we advocate a preference for only mainland China. China devalued its currency by a huge 50 percent between 1990 (the start of the exchange rate unification program) and 1993. The Hong Kong currency stayed stable. If effects of devaluation on trade performance is the subject of investigation, then it is inappropriate to combine the trade data for China and Hong Kong.

In support of their controversial decision, FEL offer the following argument: "it makes economic sense to combine China and Hong Kong trade data (even before the handover) because it is conceptually difficult to differentiate between the contributions of Chinese and Hong Kong firms" (p. 7). FEL cite Krugman (1997) to support their (questionable) reasoning: "Krugman also argues that we should combine China and Hong Kong, on the grounds that conceptually, it is like separating the trade statistics for New York city and the rest of the United States".

The FEL-Krugman argument is less than convincing. Even for data after the handover (June 1997) it is not clear that the trade statistics for China and Hong

Kong should be combined. The two regions have different exchange rate regimes, hugely different devaluations (large versus none), different costs, different tax structures, and different comparative advantages. The data for the two regions tell a different story. At the margin, it is the case that taking the extreme step of combining Hong Kong and China data helps the FEL argument because Hong Kong exports grew at a considerably lower rate than Chinese exports. *But it could be that the growth rates differ by the extent they do because China had a large devaluation and Hong Kong did not*. If one is trying to prove that Chinese devaluation did not have an effect, then it maybe erroneous to base the analysis only on export data for Greater China, rather than just mainland China.

China's exports to industrialized countries (IC's) grew at a 17 percent annual rate in the nineties, more than *double* the rate of the ASEAN7 economies (Table 3). Since world exports to IC's grew at 4.9 percent , it is apparent that the export share increased for both China and the Asean countries. China, however, shows a considerably larger increase (Table 4a). While the ASEAN7 increase their share by barely 1 percent over 7 years - from 6.9 to 7.9 percent - China's share more than doubles from 1.7 to 3.7 percent. Greater China's share also increases by more than sixty percent - from 2.7 percent to 4.4 percent. Korea and Taiwan register a *decline* in market share. Little evidence, therefore, that the "new" and "cheap" exporter did not hurt East Asian exports.

**(ii) Export and Import data**

Another major difference between FEL and us is in the use of overalll trade data, rather than exclusively export data. Concentration on the latter makes one ignore the reality that devaluation is a double-edged sword - it hurts the competitors in third markets, and via imports in one's own market.

FEL primarily concentrate on the use of export shares to demonstrate that the China devaluation was unimportant. Both the IMF and FEL are completely silent on the effects of the Chinese devaluation on Chinese imports, and China's trade surplus. For imports the official devaluation of 50 percent was equal to the actual devaluation, with predictable effects. Proper beggar-thy-neighbor policies entail an increase in trade surplus which comes about not only through large gains in exports, but also via smaller growth in imports. Import substitution can be achieved both with import taxes or with an under-valued exchange rate. This seems to have happened in China - as shown in Tables 1 and 5, import growth collapsed, and trade surpluses zoomed in the post 1993 devaluation period. As shown in Table 6, China averaged a trade surplus of $ 54 billion per year with the industrialized countries during 1990 to 1997; Greater China averaged $ 40 billion; Asean4 only $ 13 billion and the Asean7 countries – an average deficit of $4.2 billion per year!

### (iii) The counter-factual

Even if the extreme assumption of only export shares is accepted, there is still the problem of the problematic counter-factual. Even if the restrictive FEL criteria are accepted - export shares of the *Asean4 countries*, with respect to *Greater China*, in only the *post 1993* period (Tables 3 to 7), one cannot conclude that the devaluation was unimportant.

Export shares of the competitor Asean4 countries *increased* (with respect to the rest of the world, but not with respect to China) from 1993 to 1997, so how can one argue that China devaluation hurt? This line of reasoning is reminiscent of the arguments made in the early nineties defending the state intervention practiced in high growth economies of East Asia (see Wade, Petri) i.e. these countries grew at high rates, so state intervention must have had positive effects. The response to that argument was that what mattered was not the absolute level of growth, but rather the potential rate of growth. Phrased differently, what mattered was the rate of growth of total factor productivity(TFP).

Parenthetically, the World Bank's *World Development Report* (WDR) of 1991 was the *first* to document the low TFP growth achieved by the state managed East Asian economies - a finding that was elaborated upon by Bhalla (1992) and Young(1993), and popularized by Krugman (1994) but which two World Bank studies (the miracle study, World Bank (1993) and the WDR (1997b)) attempted to reverse.

The relevant question is not whether East Asian economies maintained their market share, but the counter-factual: what would have happened to their market share if China had *not* devalued. Increase in production capacity is usually made with projections of demand for output, and not with maintenance of market shares. Consequently, the following assertion by FEL is questionable "What is striking is the similarity in export growth between Greater China (sic) and the rest of developing Asia, including in the period 1994 to 1996: both show high growth in 1994 and 1995, and a slowdown in 1996…Hence, China's robust export performance in 1994 and 1995 - and the alleged devaluation of 1994 - did not translate into major gains in market share". (FEL(1998), p. 4 and 5).

What the counter-factual argument incorporates is the reality that crises occur when production, exports etc. grow significantly less than planned. China, by stealing the Asian lunch, caused severe indigestion of large scale capital flows i.e. East Asian exports to industrialized countries *grew at significantly lower rates than if China had not devalued*. Recall that in 1994, Mexican exports were growing at double-digit rates yet that was neither necessary, nor sufficient, to indicate that the peso was extremely overvalued. Similarly, the fact that the East Asian market share was increasing is not half as important as the fact that Asean7 exports were growing considerably less than capacity investments had "planned", and at half the rate of their main competitor, China.

## e. Summarizing the Macro Evidence

Charts 1 to 3 graphically illustrate the reality of the Chinese devaluation and the differences between FEL and our analysis. Chart 1a documents the evolution of China's trade surpluses, an outcome made possible by the devaluation. These surpluses zoomed from around $ 40 billion in 1990 to more than $ 120 billion in 1997. Chart 3 documents the fact that in 1997, the US had identical problems with both China and Japan – both countries with surpluses around $ 50 billion.

Chart 2 graphically illustrates that only for the restrictive *Greater China vs. Asean4 exports* to US comparison, is the performance of Greater China and its competitors of roughly equal magnitude. For industrialized countries, China increases its export share (indexed at 100 for 1990) to 250 in 1997 i.e. a 150 percent increase in seven years. For Greater China, the increase is a 100 percent; for Asean4 there is only a 50 percent increase; and for Asean7, an almost negligible 20 percent increase. This is where competitive China hurt the fortunes of East Asia.

## f. The Micro Evidence

Tables 4b and 4c provide evidence about the increase in China's market share at the micro level. Data for four industries are presented: toys, electrical machinery, computers and apparel. Table 4b shows in numbers what is now a well known reality: in the space of just two years (1994 to 1996) China was able to increase its share of the toy market in the US from a very high 47 percent to an even higher 54 percent. The Asean7 show a large decline in these two years – from 21 to 16 percent, and Japan also shows a large decline – from 13 to11 percent. Both China and Asean7 show an identical 1 percent increase for electrical machinery with Japan showing a large decline from 28 to 22 percent. (Note that in growth terms, China's exports grew at a much larger rate).

Table 4c reproduces a table contained in FEL. This table reports export share data *among* the East Asian economies, including China, for two important industries – computers and apparel. In the former, China's share goes up from 0 % in 1989 to 3 % in 1993 and 5 % in 1996. For apparel, the share increase is exponential – from 18 percent in 1989 to 41 percent in 1993 and 47 percent in 1996. The East Asian competitors are left behind – their share in apparel declines exponentially, from 64 percent in 1989 to 40 percent in 1996. For the important computers sector, the Asean7 economies are barely able to maintain their share. Thus, the micro data is consistent with the hypothesis that the Chinese devaluation from 1990 to 1993 helped Chinese exports *at the expense of their East Asian neighbors.* As noted above, part of the data is reproduced from the study by the three US FED economists, FEL(1998), who strangely do

not reach the same conclusion i.e. that China's mercantilist trade policy hurt its neighbors.

### g. Did Devaluation Hurt Chinese Imports (and Asian Exports) ?

The flip side of export growth via devaluation is import compression. Import growth in China collapsed from a 26.4 percent annualized growth 1990-1993 to only an 8.4 % growth rate during 1993-1997. (Table 5). In contrast, almost all countries show an acceleration in import growth during these two periods, with the ASEAN-4 increasing from 12.3 to 14.8 percent and the ASEAN-7 showing an increase from 11.1 to 12 percent.

### h. Political Economy of Trade Surpluses

Since the 1985 Plaza agreement, US policy-makers have been concerned with the large trade surpluses that mercantilist Japan has been able to enjoy. In the nineties, a new political economy problem emerged – China's trade surpluses with the US – surpluses which match those of Japan. China's trade surplus with the world in 1997 (figures are end June and therefore prior to the crisis -Table 6) was $ 111 billion in contrast to Japan's $ 150 billion. In striking contrast, China's trade surplus with the US in 1997 was almost equal to the "horrendous" figure for Japan - $ 45 billion vs. $ 54 billion.

Chinese trade (imports plus exports), at $ 415 billion, was a little more than *half* of Japan's $ 770 billion. In 1990, China's trade surplus was only $ 40 billion compared to Japan's $ 100 billion. The Asean7 countries, with almost a third higher volume of trade, registered only a quarter of the surplus ($32 billion) enjoyed by China.

### i. Mercantilism defined

What China followed, via large devaluations was a policy of systematic undervaluation of the currency. Given that huge trade surpluses were present *prior* to devaluation, this suggests that a mercantilist trade policy was being followed. Webster's dictionary defines mercantilism as follows:

"an economic system developing during the decay of feudalism to unify and increase the power and especially the monetary wealth of a nation by strict governmental regulation of the entire national economy usually through policies designed to secure an accumulation of bullion, a favorable balance of trade, the development of agriculture and manufactures, and the establishment of foreign trading monopolies".

As shown in Table 6, a key feature of mercantilism, accumulation of trade surpluses, did seem to occur in China. Only China's trade surplus shows a quantum jump - with respect to the all important market (industrialized countries) China's trade surplus almost doubles from an *average* level of "only" $ 35 billion during 1990-93 to an average of $ 66 billion during 1993-1997. No movement of the surplus is observed for Japan, and the trade surpluses become *deficits* for the Asean7 (decline is from $ 8 billion, 1990-93 to minus $14 billion, 1993-1997).

### j. Mercantilism Index says YES

Table 6 also reports on a mercantilism index for the various regions. This index attempts to capture "excess exports" and is defined as the ratio of such excess (X-M) to export levels. Both China and Japan appear as the major mercantilists, and since 1996, China appears as the most mercantilist in the world, even more than recession battered Japan. (In a recession economy, or during periods of stabilization, this index overstates mercantilism). The figures for Japan today vastly overstate mercantilism because the depression there vastly understates imports, a problem not present in booming China. The Asean7 countries, at least during the nineties, do not reveal any mercantilist tendencies.

### k. Why Can't All Countries be Mercantilist ?

In a democratic set-up, there will be demands for a revaluation of the currency, an outlet not available in Communist regimes like China. Workers, and consumers, lose out with an undervalued currency with the gainer being the mercantilist state. However, the post-War experience of Japan has shown that a democratic polity is only a necessary and not sufficient condition for providing a "checks and balances" to mercantilism. Nor does the international financial system help. Various mechanisms to identify and punish dumping are in place. Unfortunately, the structure does not allow vigilance over under-valuation while over-valuation gets corrected automatically - large current account deficits need to be financed and lenders are unwilling to lend. Trade surpluses, however, are self-correcting only if the domestic political system allows representation, or if IMF plays its appointed role.

## 3. ALTERNATIVE EXPLANATIONS OF THE CAUSES

Some of the more prominent explanations for the generation of the crisis are explored below.

### a. Did Japan Devaluation Cause the Crisis ?

IMF(1997) contends that the yen devaluation of nearly 40 percent between mid-June 1995 and end-June 1997 may have been responsible for the financial crisis. Apparently, the view is that the yen devaluation mattered, but not China's devaluation - an inconsistency also endorsed by the *Economist* (1998).

Japanese exports, and trade surpluses peaked in 1995 and in 1997 were barely above 1995 levels, even though the yen had devalued. It is interesting to note that the IMF mentions the yen devaluation as a contributory cause with no evidence from exports data, and does not acknowledge the possibility of Chinese devaluation with significant data about Chinese exports and trade surpluses.

Table 7 contains data on the Japanese economy in the nineties. The yen-devaluation of 1995 is an excellent example of something that superficially makes sense, but on closer examination fails to fulfill expectations. Several pieces of evidence are noteworthy. First, the yen devaluation failed to help Japan's exports - they *peaked* in 1995 and were 5 percent *lower* in 1997. Nor were Japanese imports severely curtailed - a necessary condition for the Asean countries to be "hurt". Instead, Japan's imports *increased* from a $ 300 billion level in 1995 to $ 307 billion in 1997. This occurred at a time when the Japanese economy was fast approaching a recession. Both China and Asean7 maintained their market share in Japan from 1995 to 1997. Note however the large increase in China's share of Japan imports, 1990 to 1997. The share more than *doubles* from 4.4 percent to 9.3 percent; in contrast, the Asean7 economies barely maintain their share - 22.1 percent vs. 25 percent. Thus, there is little support for the IMF (and others) hypothesis that the yen devaluation was a contributory cause to Crisis '97.

**b. Did Capital Account Liberalization cause the problem ?**

Before evaluating the possibly harmful effects of capital account liberalization it is important that a definition of capital account convertibility (KAC) be adopted. In Bhalla(1997f) it is argued that a necessary and sufficient condition for KAC is a floating exchange rate regime, as well as currency board regimes as in Argentina and Hong Kong. If this definition is adopted, then it follows that the managed exchange rate regimes of East Asia were economies *without* KAC; hence, the presence of KAC cannot be a cause of the crisis. The reason this obvious point is being made is because there is a popular perception (and a correct one) that large short-term dollar borrowings were part of the East Asian problem. As argued by Bhalla (1997b, 1998) , *lack* of KAC ( a managed exchange rate) provided no-brainer profits to traders and international bankers which was why short-term lending to East Asian economies were so high.

Over the last few years, the IMF has published several articles on the benefits of KAC. (See Mathieson-Suarez-Rojas and Quirk-Evans). The Reserve Bank of India's report on KAC (RBI (1997)) also documents research on the positive effects of capital liberalization. Indeed, the trendy research topic over the last few years has been that pertaining to financial liberalization, and the accumulated evidence does suggest that even the incomplete managed exchange rate version of CAL has considerable benefits for growth.

Table 8 reports data on real interest rates and output growth for both developed and developing countries for the period 1981 to 1996. What does jump out from this aggregate data is that the developing countries (which witnessed the largest change in CAL since 1981) increase their growth rate from 3.9 to 4.7 percent; and the volatility (risk) of both short-term and long-term rates has come down with increased CAL.

Another presumed benefit of CAL is increased capital flows and a *lack* of a relationship between savings and investment. In two important articles, Feldstein-Hororika (1980) and Feldstein-Bacchetta (1991) document that the relationship between saving and investment rates is suggestive of an *absence* of capital market integration. The Feldstein argument is that one measure of capital integration across economies is the amount of correlation between domestic savings and domestic investment. If correlation is large, then the capital account is relatively closed. If the correlation is small, then the capital account is relatively open. After controlling for co-integration (see Bhalla(1997f) for details), it is observed that the Feldstein conclusion of high correlation is rejected. Indeed, the hypothesis that the correlation became zero in the nineties cannot be rejected. This means that capital account liberalization allows capital to seek the highest return - something that is consistent with higher, not lower, growth.

**c. Is Capital Account Liberalization not good for LDCs ?**

The above data show that CAL has considerable benefits for resource allocation, and therefore, by implication, in lowering the cost of capital. Further, the operation of capital markets means a lowering of risk.

Among the more intriguing ? explanations for the East Asian crisis is one offered by Stiglitz (1998). He makes two points about CAL and its effects. First, that CAL increases the overall level of risk in an economy. “I think the statement that capital account liberalization increases risk is uncontroversial” (p. 17). Second, that CAL does not lead to higher growth.

“A very large literature has documented the positive consequences of trade liberalization, including faster growth, higher wages in exporting jobs, and lower prices for consumers. We do not have anything resembling this body of research establishing the positive effects of capital account liberalization. One of the few recent studies, a paper by Dani Rodrik (forthcoming) showed that there is no statistically significant relationship between growth or investment and capital account liberalization. I do not think that this one study is definitive. What it does show, however, is that the positive benefits of capital account liberalization do not jump out from the data” (p. 17).

The econometric evidence cited by Stiglitz is questionable. The Dani Rodrik cross-country regressions contain regional dummies for East Asia, Latin America and Sub-Saharan Africa in addition to a variable which captures capital

account liberalization. Assume for a moment that East Asian economies had higher growth and more CAL (something several studies, including the miracle study (World Bank (1993) have extensively documented). The dummy regional variable is liable to capture a lot of the effects of CAL rendering it insignificant i.e. the effects of CAL are captured almost entirely by the hugely significant, and positive, East Asian dummy.

Besides a problematic dummy, other variables can be used to proxy for CAL. The World Bank's World Development Report of 1991 reported cross-country regressions with the black market premium (BMP) on a country's currency as an independent variable. This study, along with Scully-Slottje, was one of the first to use this variable in the context of the new growth theory regressions. In Bhalla(1992) it was argued that BMP captured economic freedom or the presence/absence of foreign exchange controls. In other words, BMP is almost a perfect variable to capture capital account liberalization.

What is the empirical evidence relating capital account liberalization (black market premium) to economic growth? Bhalla (1992, 1997e) reports several reduced form cross-country regressions relating per capita income growth to determinants of growth In addition to BMP, other important presumed determinants of economic growth are also included e.g. economic freedom, fiscal deficits, etc. The results are robust: one of the consistently significant variables is the black market premium, as well as economic freedom (a variable which contains large elements of capital account liberalization). Higher the black market premium, less the amount of capital account liberalization, and less growth. That these variables are significant, in the presence of an East Asian dummy variable, suggests that they are also "robust". The magnitude is not trivial either - improvements in capital account liberalization can increase the per capita growth rate (proxy for productivity growth) by 1 to 3 percent per annum.

### d. Crony Capitalism and Non-Performing Assets of Banks

Analysts have identified causes of the crisis which are really *subsets* of a managed exchange rate regime. The example of "crony capitalism" is one such "derived" primary cause. The access to rents i.e. cheaper foreign credit, is rationed by the government to preferred customers (cronies). Hence, cronyism helps obtain rents.

Now consider the example of non-performing assets, or banking sector problems. Suddenly, in late 1997, it became fashionable to contend that non-performing assets in East Asia were large and were *the* cause of the crisis. This was a surprise, since the *earlier* conventional wisdom was that the much more developed financial sector, and realistic interest rates, were the cause of the East Asian *miracle*.

How do non-performing assets occur ? When bad investments occur. How do bad investments occur ? When the returns to investments are not high. What happens if foreign borrowing rates are almost 3 to 5 percent less than risk-free domestic deposits ? Excess borrowing occurs which results in excess investments which results in an excess of non-performing assets. In other words, the banking sector problems in East Asia were an outcome of the managed exchange rate regime, and therefore should not be construed as a cause of the crisis.

**e. Equity and Property Markets**

The leading indicator of the economy in both developed and developing markets is the stock market. Especially in developing countries where the policy makers "control" the workings of other financial markets - interest rates and exchange rates. This makes the stock market the *residual* shock absorber. Perhaps because of this acknowledged role of the stock market, the first conventional wisdom culprit cause of the crisis was an "asset bubble". (See Sachs(1998), Krugman(1998) among various others).

The evidence does not support this conclusion. In end 1996 and/or June 1997, the dollar based indices with *1990 equal to a 100* were as follows: Indonesia at 135, Korea at 79, Malaysia at 236, Philippines at 397, Singapore at 210, Taiwan at 195 and Thailand at 111. Excepting the Philippines, the "best" bubble was Malaysia with stock market prices twice *those six and a half years earlier*. The Malaysian economy, like the rest of East Asia, was growing at an average of 7+ GDP growth rate during this period. According to "fair" value index reported in *Developing Trends* (1998), the Malaysian stock market was trading at a 17 percent *discount* in June 1997, the Philippines at a premium of 60 percent and Thailand and Korea both at discounts exceeding 60 percent! Little, rather no evidence, of a stock market bubble. Indeed, the stock market was giving more than adequate notice that something was wrong with the investments that were being undertaken in these economies.

In contrast, however, the *property* market in all the East Asian economies was in the midst of a property asset bubble. According to So-Kanatunga(1998), in both Hong Kong and Singapore, property lending (as a percent of total loans) had zoomed to 35 percent; the "capital value index" of real estate in major cities was at its peak in all the East Asian economies in June 1997. However, while this bubble was present, it was so in only the capital cities of these economies, and could not possibly have absorbed the billions of dollars of excess borrowing.

**f. The perverse role of fiscal surpluses**

Instead of fiscal deficits, the East Asian economies were running *surpluses* for several years prior to the crisis in 1997. Bhalla(1997b) makes the point that possibly the *worst* policy for a developing country is good fiscal policy and

managed exchange rates. This occurs because of the signaling effect. Foreign investors, and yuppie traders, need to make quick, and hopefully not very taxing, decisions on where to invest. The menu is the world, and the senior management will not approve of investments in "irresponsible" economies.

The best indicator of an economy's health is the fiscal deficit. How can it be wrong to invest in a country which has 8 percent growth and fiscal surpluses ? Nobody has ever lost a job on a lemming investment. Hence, the flood of money into East Asia, aided and abetted by the "fiscal" guarantee that things could not go wrong. More the fiscal surplus, better the economy, more capital came in, and the exchange rate became more over-valued. A virtuous cycle became a vicious cycle. Hence, the over-capacity, the decline in the rate of return to investment, and the denouement of the crisis. It is a moot question whether senior managers know more or less than yuppie traders about what the determinants of growth are in an emerging economy. What is clear is that both are heavily influenced by the latest fashion (literally) on Wall Street.

## 4. WHAT DID HAPPEN ?

In Bhalla(1998a) a detailed analysis of "what and why" of Crisis '97 is presented. In summary form, the explanations seem to be as follows.

### a. Capital flows and fixed exchange rates

The nineties were witness to a boom in private capital flows to emerging markets. From nascent levels (around $ 25- $ 50 billion) in the early years, such flows accelerated to around $ 300 billion at the time of the crisis in mid-1997. None of the East Asian economies had a floating or market determined exchange rate. Central Banks intervened, and intervened often, to restrict capital movements. Most, if not all, the Central banks had either an implicit or explicit FX band - lines in the sand which were not allowed to be crossed. (As events of 1997 showed, lines in the sand only serve to ensure that the ensuing dust storm can be a blinding one). All participants - domestic central bankers, international central bankers, and private bankers - knew about the bands, and their "sanctity".

### b. Zero hedging costs

In a managed fixed" exchange rate regime, there is considerable incentive to *not* indulge in hedging. The currency might appreciate, in nominal terms, as indeed it did in many developing countries during 1991 to 1996. (Table 2). The exchange rate might depreciate *less* than interest rate differentials. And the "smart money" would exit early i.e. most investment bankers felt that they would be able to exit before any large discrete devaluation, the experience of Mexico 1994 notwithstanding.

### c. Floating exchange rates would have avoided the crisis

If exchange rates had been floating (as they now are), exchange rates would have quickly appreciated (or depreciated) in response to profitability perceptions. For example, as more capital flows in, the more the exchange rate appreciates, and the less excess returns the last entrant obtains i.e. a self-regulating system that does not need bureaucratic or central bank control. In contrast, with a managed exchange rate, the inward capital flows can be limitless.

### d. Efficient Excess Capacity Creation

These unhindered capital flows helped generate the creation of a large amount of capacity in emerging, especially Asian economies. The popularity of economic reforms everywhere (Argentina, Brazil, China, India, Eastern Europe) meant not only capacity, but relatively *efficient* capacity was being generated. And the capacity was similar, if not identical. It was created by similarly educated domestic manpower in collaboration with world capital, world technology and world management. This excess efficient capacity and production has likely been *the* reason why the death of inflation occurred - and not because of “tight” and/or “appropriate” monetary policies in countries as diverse as the US, Germany, China, or India.

### e. How to Compete?

The brave new world required lean and mean competitive machines. Profit margins were significantly reduced, as the new virtuous cycle was in full operation. Given this competitive environment, where was the “edge” ? Most emerging markets, and particularly those in East Asia, could not follow the old mercantilist model of an under-valued currency. Most of these countries were relatively open to foreign capital so devaluation could no longer be achieved by fiat. Further, any such devaluation would have been met by an extremely hostile response from foreign investors and international banks.

### f. Response of East Asia

What are policy makers (especially of export-oriented economies) to do when they are competed out of markets by their big neighbor ? They can complain to the international authorities about a genuine non level-playing field, but this for political reasons (US-China bond) was not possible. The other alternative was to devalue. But this would have met with wrath from the foreign investors, or from other neighbors, about not playing by the rules.

### g. Plaza is the parallel

While most analyses of the crisis have centered on parallels with the Mexican devaluation of 1994, it is likely that the closest parallel was the Plaza agreement,

an agreement undertaken to stop the undervaluation of the Japanese yen. This "deal" was hammered out under the leadership of the US government in Sept. 1985; its purpose was to devalue the dollar in general, and revalue the yen, in particular. The Bretton Woods fixed exchange rate system had been dismantled more than a decade earlier. Yet, the yen remained strangely fixed, (the yen/$ exchange rate was 260 yen just before Plaza in 1985 - it was the same five years earlier) and under-valued, in a floating rate world. Japan also continued to run up huge trade surpluses - a factor which had not gone unnoticed in the American corporate, and political, circles.

Replace Japan with China in the above paragraph and the parallels become striking. China was also running huge trade surpluses; also rapidly growing; also rapidly approaching East Asian productivity levels; and also continuously operating an under-valued currency. The competitor(s) hurt in this instance by a mercantilist policy were the East Asian neighbors, the very same set of countries that took part in the Asian crisis.

## 5. CONCLUSIONS

This paper has attempted to explain the causes of the East Asian financial crisis of 1997. What is "new" about this paper is in its attempt to examine the various hypotheses that have been offered and to provide a consistent explanation to the various facts. The crisis occurred because of over-investment and over-production; such over production was caused by planning for a future which had not correctly anticipated the important role that Chinese production, and low Chinese costs, would play; comparative costs became important because of the 50 percent Chinese devaluation (in the guise of exchange rate reform) that was allowed to occur between 1990 and 1993; capital continued to flow to East Asia because of the promise of high returns (bad anticipation of China's role) and because of the promise of stable returns (quasi-fixed exchange rates). Once the trade shares of the East Asian economies were affected, investments became relatively unprofitable; and once Thailand showed the way, the other East Asian competitors of China followed.

The role of the Chinese economy in helping make the crisis inevitable is crucial for this paper. Consequently, detailed data on trade of China, and East Asia, with the industrialized countries are presented. These data also offer an alternative interpretation to that presented by Fernald-Edison-Loungani who argue the opposite case i.e. that the Chinese trade policy (devaluation) was irrelevant. Differences between the two studies arise primarily because of three factors. First, FEL look at only the 1993-1997 data for exports despite arguing that China's devaluation of Jan. 1994 was only a unification of the exchange rates – hence, it follows that the data for 1990 to 1997 should be used (as argued in this paper). Second, FEL ignore the role of trade surpluses and imports of China which were affected by the devaluation. Third, FEL concentrate only on data for Greater China (China and Hong Kong) rather than the two separately as done in

this paper. It seems only logical that if the effects of devaluation are being studied, then one cannot combine the data of a country with a large devaluation (China) with a country with zero devaluation (Hong Kong).

If trade shares etc are used then the conclusion is inescapable that China's devaluation and trade policy, along with managed exchange rates, caused the East Asian crisis of 1997.

## Table 1: Chinese Economy at a Glance

| | Average 1985-89 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|
| **GDP Growth (%)** | 9.5 | 3.7 | 9.1 | 13.6 | 13.0 | 12.2 | 10.2 | 9.7 | 8.1 |
| **Inflation(%)** | 14.1 | 2.1 | 4.0 | 7.0 | 29.5 | 25.5 | 17.1 | 8.3 | 8.3 |
| | | | | | | | | | |
| **Exchange Rates(yuan/$)** | | | | | | | | | |
| Official | 3.53 | 5.22 | 5.43 | 5.75 | 5.80 | 8.45 | 8.32 | 8.30 | 8.29 |
| Parallel | 4.53 | 5.88 | 6.25 | 7.69 | 9.09 | 8.45 | 8.32 | 8.30 | 8.29 |
| Weighted Parallel | 4.23 | 5.68 | 6.01 | 7.11 | 8.10 | 8.45 | 8.32 | 8.30 | 8.29 |
| Correct "Fair" Currency O/V | 12.4 | -7.2 | -18.3 | -41.1 | -31.5 | -14.5 | -1.9 | 0.1 | -4.0 |
| Correct "Fair" Exchange Rate | 4.8 | 5.3 | 5.1 | 5.04 | 6.2 | 7.4 | 8.2 | 8.3 | 7.9 |
| Incorrect "Fair" Currency O/V | 12.4 | -6.2 | -11.2 | -26.6 | -14.5 | 2.4 | 15.8 | 19.9 | 17.7 |
| Incorrect "Fair" Exchange Rate | 4.8 | 5.3 | 5.4 | 5.6 | 7.1 | 8.7 | 9.9 | 10.4 | 10.1 |
| | | | | | | | | | |
| **Trade (Recipient Country Data)** | | | | | | | | | |
| Exports | | 88.7 | 112.9 | 137.4 | 157.7 | 192.7 | 234.0 | 254.5 | 262.8 |
| Imports | | 49.1 | 61.8 | 82.1 | 108.3 | 120.6 | 146.1 | 157.6 | 151.6 |
| Trade Balance | | 39.7 | 51.1 | 55.3 | 49.4 | 72.1 | 87.9 | 96.9 | 111.2 |
| | | | | | | | | | |
| **Trade (Chinese Data)** | | | | | | | | | |
| Exports | 39.6 | 62.9 | 71.9 | 85.5 | 91.6 | 120.8 | 148.9 | 151.1 | 162.0 |
| Imports | 48.6 | 53.9 | 63.9 | 81.8 | 103.6 | 115.6 | 132.1 | 138.8 | 125.6 |
| Trade Balance | -9.0 | 9.0 | 8.1 | 3.6 | -11.9 | 5.2 | 16.8 | 12.3 | 36.4 |
| Reserves | | 35.5 | 21.7 | 19.4 | 21 | 52 | 74 | 105 | 140 |
| | | | | | | | | | |
| **Trade with Industrialised Countries** | | | | | | | | | |
| Exports | | 44.7 | 56.9 | 70.7 | 81.8 | 104.2 | 125.7 | 139.2 | 144.4 |
| Imports | | 21.1 | 26.0 | 23.0 | 44.3 | 49.0 | 58.8 | 58.6 | 52.7 |
| Trade Balance | | 23.6 | 31.0 | 47.7 | 37.6 | 55.2 | 66.9 | 80.6 | 91.7 |
| | | | | | | | | | |
| **Trade with US** | | | | | | | | | |
| Exports | | 16.3 | 20.3 | 27.4 | 31.2 | 41.4 | 48.5 | 54.4 | 56.9 |
| Imports | | 4.8 | 6.3 | 7.5 | 8.8 | 9.3 | 11.7 | 12.0 | 11.6 |
| Trade Balance | | 11.5 | 14.0 | 19.9 | 22.4 | 32.1 | 36.8 | 42.4 | 45.2 |

*Source: 1.) Direction of Trade Statistics (DOTS), IMF, 1997 yearbook; June 1998 quarterly*
*2.) O[x]us Research & Investments Database*

*Notes:*
Values for 1997 are as of end June,1997. All other figures are end-year figures.
All trade figures are based on recipient country data unless otherwise stated and are in US $ Bn.
Incorrect "Fair" Exchange Rate adjusts for inflation differences while Correct "Fair" Exchange Rate corrects for both inflation and productivity differences.

**Table 2: Exchange Rates (vs. US$), 1990-1998**

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | June, 1997 | 1997 | June, 1998 |
|---|---|---|---|---|---|---|---|---|---|---|
| India | 18.1 | 25.8 | 26.2 | 31.4 | 31.4 | 35.2 | 35.9 | 35.8 | 39.2 | 42.4 |
| China Off. | 5.2 | 5.4 | 5.8 | 5.8 | 8.5 | 8.3 | 8.3 | 8.3 | 8.3 | 8.3 |
| China Parallel | 5.9 | 6.3 | 7.7 | 9.1 | 8.5 | 8.3 | 8.3 | 8.3 | 8.3 | 8.3 |
| ChinaWt.Parallel | 5.7 | 6.0 | 7.1 | 8.1 | 8.5 | 8.3 | 8.3 | 8.3 | 8.3 | 8.3 |
| Hong Kong | 7.8 | 7.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.8 | 7.7 |
| Indonesia | 1901 | 1992 | 2062 | 2110 | 2197 | 2285 | 2361 | 2431 | 5350 | 14500 |
| Korea | 716 | 761 | 788 | 808 | 788 | 776 | 845 | 886 | 1430 | 1373 |
| Malaysia | 2.7 | 2.7 | 2.6 | 2.7 | 2.6 | 2.5 | 2.5 | 2.5 | 3.9 | 4.1 |
| Pakistan | 21.9 | 24.7 | 25.7 | 30.1 | 30.8 | 34.2 | 40.1 | 40.4 | 44.0 | |
| Philippines | 28.0 | 26.7 | 25.1 | 27.7 | 24.2 | 26.2 | 26.3 | 26.4 | 40.2 | 41.8 |
| Singapore | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 | 1.4 | 1.4 | 1.4 | 1.7 | 1.7 |
| Taiwan | 27.2 | 25.8 | 25.5 | 26.8 | 26.3 | 27.3 | 27.5 | 27.8 | 32.7 | 34.4 |
| Thailand | 25.3 | 25.3 | 25.5 | 25.5 | 25.1 | 25.2 | 25.7 | 24.9 | 46.2 | 42.2 |
| Argentina | 0.56 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Brazil | 0.00 | 0.00 | 0.00 | 0.12 | 0.85 | 0.97 | 1.04 | 1.08 | 1.11 | 1.16 |
| Chile | 337 | 375 | 382 | 431 | 403 | 406 | 424 | 416 | 439 | 466 |
| Mexico | 2.9 | 3.1 | 3.1 | 3.1 | 4.7 | 7.7 | 7.8 | 7.9 | 8.1 | 9.0 |
| Czech R. | . | . | . | 30.0 | 27.9 | 26.7 | 27.3 | 32.4 | 34.3 | 33.4 |
| Hungary | 61 | 76 | 84 | 101 | 113 | 136 | 162 | 187 | 204 | 220 |
| Poland | 1.0 | 1.1 | 1.6 | 2.1 | 2.4 | 2.5 | 2.9 | 3.3 | 3.5 | 3.9 |
| Australia | 1.3 | 1.3 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | 1.6 |
| Germany | 1.5 | 1.5 | 1.6 | 1.7 | 1.6 | 1.4 | 1.5 | 1.7 | 1.8 | 1.8 |
| Japan | 134 | 125 | 125 | 112 | 100 | 104 | 116 | 114 | 130 | 139 |
| New Zealand | 1.7 | 1.8 | 1.9 | 1.8 | 1.6 | 1.5 | 1.4 | 1.5 | 1.7 | 1.9 |
| Switzerland | 1.3 | 1.4 | 1.5 | 1.5 | 1.3 | 1.1 | 1.3 | 1.5 | 1.4 | 1.5 |
| UK | 0.52 | 0.53 | 0.66 | 0.68 | 0.64 | 0.65 | 0.59 | 0.60 | 0.60 | 0.60 |

*Source: O[x]us Research & Investments Database.*

*Notes:*1)The values for 1998 are for June or the latest available.
2)The exchange rates are end-period values, except where noted.

**Table 3: Was China the Favored Exporter?**

| Country | | Exports In 1990($ Bn) | Exports in 1997($ Bn) | Annualized Growth Rates(%) 1990-1993 | 1993-1997 | 1990-1997 |
|---|---|---|---|---|---|---|
| China | World | 88.7 | 262.8 | 19.2 | 12.8 | 15.5 |
| | Industrialised Countries | 44.7 | 144.4 | 20.2 | 14.2 | 16.8 |
| | USA | 16.3 | 56.9 | 21.6 | 15.0 | 17.9 |
| G.C. | World | 138.4 | 321.3 | 13.6 | 10.9 | 12.0 |
| | Industrialised Countries | 70.0 | 171.7 | 14.2 | 11.8 | 12.8 |
| | USA | 26.2 | 65.9 | 15.0 | 11.8 | 13.2 |
| ASEAN-4 | World | 94.5 | 243.3 | 13.7 | 13.4 | 13.5 |
| | Industrialised Countries | 62.3 | 137.6 | 11.9 | 10.9 | 11.3 |
| | USA | 18.4 | 47.7 | 17.4 | 10.8 | 13.6 |
| ASEAN-7 | World | 270.1 | 598.0 | 10.9 | 11.7 | 11.4 |
| | Industrialised Countries | 179.0 | 310.0 | 5.7 | 9.4 | 7.8 |
| | USA | 71.7 | 120.8 | 5.8 | 8.7 | 7.5 |
| Japan | World | 309.5 | 459.2 | 7.5 | 4.2 | 5.6 |
| | Industrialised Countries | 183.4 | 220.5 | 2.9 | 2.4 | 2.6 |
| | USA | 93.1 | 121.3 | 5.7 | 2.4 | 3.8 |
| IC's | World | 2577.7 | 3626.2 | -0.6 | 9.0 | 4.9 |

Source: *Direction of Trade Statistics (DOTS),* IMF, 1997 yearbook; June 1998 quarterly.

Notes: 1.) The annualized growth rates are computed as first differences in logs.
2.) ASEAN-4 comprises of Indonesia; Malaysia; Philippines and Thailand. ASEAN-7 comprises of
the ASEAN-4 countries plus Korea; Taiwan and Singapore.
3) The 1997 figures are approximated from the first two quarters of 1997.

**Table 4(a): Exports of Asia to Industrialized Countries, 1990-97**

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|
| **Exports to IC's ($ Bn)** | | | | | | | | |
| China | 44.7 | 56.9 | 70.7 | 81.8 | 104.2 | 125.7 | 139.2 | 144.4 |
| Greater China | 70.0 | 82.6 | 96.6 | 107.1 | 130.2 | 155.4 | 169.6 | 171.7 |
| Asean 4 | 62.3 | 70.3 | 79.8 | 89.0 | 103.0 | 123.0 | 134.2 | 137.6 |
| Asean 7 | 179.0 | 191.7 | 203.8 | 212.5 | 244.9 | 294.3 | 308.6 | 310.0 |
| Japan | 183.4 | 189.8 | 198.3 | 200.2 | 216.1 | 229.3 | 212.8 | 220.5 |
| USA | 267.6 | 275.1 | 278.4 | 280.1 | 316.7 | 361.8 | 384.4 | 420.5 |
| World | 2577.7 | 2602.3 | 2716.0 | 2528.6 | 2881.8 | 3386.8 | 3503.9 | 3626.2 |
| Export Shares (%) | | | | | | | | |
| China | 1.7 | 2.2 | 2.6 | 3.2 | 3.6 | 3.7 | 4.0 | 3.7 |
| Greater China | 2.7 | 3.2 | 3.6 | 4.2 | 4.5 | 4.6 | 4.8 | 4.4 |
| Asean 4 | 2.4 | 2.7 | 2.9 | 3.5 | 3.6 | 3.6 | 3.8 | 3.5 |
| Asean 7 | 6.9 | 7.4 | 7.5 | 8.4 | 8.5 | 8.7 | 8.8 | 7.9 |
| Japan | 7.1 | 7.3 | 7.3 | 7.9 | 7.5 | 6.8 | 6.1 | 5.6 |
| USA | 10.4 | 10.6 | 10.2 | 11.1 | 11.0 | 10.7 | 11.0 | 10.7 |

Source: *Direction of Trade Statistics (DOTS),* IMF, 1997 yearbook; 1997 data are annualized Jan-June 1997 levels.

**Table 4 (b): Export Shares Of Asian Countries in the US Market, Selected Industries, 1994-96.**

| | Industry 95 (Toys and Accessories) | | | | Electrical Machinery | | | |
|---|---|---|---|---|---|---|---|---|
| | ($ Billions) | | Share | Share | ($ Billions) | | Share | Share |
| | 1994 | 1996 | 1994 | 1996 | 1994 | 1996 | 1994 | 1996 |
| China | 5.6 | 8.0 | 47 | 54 | 6.8 | 9.2 | 7 | 8 |
| Hong Kong | 0.2 | 0.2 | 2 | 2 | 1.5 | 2.1 | 2 | 2 |
| Greater China | 5.8 | 8.2 | 49 | 56 | 8.3 | 11.3 | 9 | 10 |
| Indonesia | 0.1 | 0.1 | 1 | 1 | 0.8 | 1.3 | 1 | 1 |
| Malaysia | 0.3 | 0.3 | 2 | 2 | 8.2 | 9.9 | 9 | 9 |
| Phillipines | 0.1 | 0.1 | 1 | 1 | 2.4 | 3.7 | 2 | 3 |
| Thailand | 0.4 | 0.3 | 3 | 2 | 2.2 | 2.6 | 2 | 2 |
| ASEAN-4 | 0.9 | 0.9 | 7 | 6 | 13.6 | 17.6 | 14 | 15 |
| Korea | 0.2 | 0.2 | 2 | 1 | 7.3 | 8.9 | 8 | 8 |
| Taiwan | 1.3 | 1.2 | 11 | 8 | 5.5 | 7.2 | 6 | 6 |
| Singapore | 0.04 | 0.02 | 0 | 0 | 3.8 | 4.2 | 4 | 4 |
| ASEAN-7 | 2.4 | 2.3 | 21 | 16 | 30.2 | 37.8 | 32 | 33 |
| Japan | 1.6 | 1.6 | 13 | 11 | 26.5 | 25.7 | 28 | 22 |
| India | 0.01 | 0.02 | 0 | 0 | 0.1 | 0.1 | 0 | 0 |
| World | 11.8 | 14.7 | 100 | 100 | 96.2 | 116.4 | 100 | 100 |

*Source: National Trade Data Bank, U.S. Department Of Commerce .*

**Table 4 (c): Export Shares of Asian Economies in US Market: Selected Industries, 1989-1996.**

| | Industry 213 (Computers,Peripherals and Semiconductors) | | | Industry 400 (Apparel, Footwear and Household products) | | |
|---|---|---|---|---|---|---|
| | 1989 | 1993 | 1996 | 1989 | 1993 | 1996 |
| **China** | 0 | 3 | 5 | 18 | 41 | 47 |
| **Hong Kong** | 7 | 4 | 3 | 18 | 14 | 13 |
| ***Greater China*** | *7* | *7* | *8* | *36* | *55* | *60* |
| **Indonesia** | 0 | 0 | 1 | 3 | 6 | 8 |
| **Malaysia** | 12 | 15 | 15 | 2 | 3 | 4 |
| **Phillipines** | 4 | 4 | 6 | 3 | 5 | 5 |
| **Thailand** | 5 | 6 | 5 | 4 | 5 | 6 |
| **ASEAN-4** | 21 | 25 | 27 | 12 | 19 | 23 |
| **Korea** | 21 | 16 | 18 | 27 | 13 | 7 |
| **Taiwan** | 20 | 23 | 19 | 22 | 11 | 9 |
| **Singapore** | 31 | 29 | 28 | 3 | 2 | 1 |
| **ASEAN-7** | 93 | 93 | 92 | 64 | 45 | 40 |
| ***World**** | *100* | *100* | *100* | *100* | *100* | *100* |

*Source: Fernald, John, Hali Edison and Prakash Loungani,1998. pg.36.*
*Notes: World* comprises of total of ASEAN 7 and Greater China.*

**Table 5: Exports to China, or Chinese Imports - Devaluation Bites**

| Country | | Imports in 1990($ Bn) | Imports in 1997($ Bn) | Annualized Growth Rates 1990-1993 | 1993-1997 | 1990-1997 |
|---|---|---|---|---|---|---|
| China | World | 49.1 | 151.6 | 26.4 | 8.4 | 16.1 |
| | Industrialised Countries | 21.1 | 52.7 | 24.7 | 4.3 | 13.1 |
| | USA | 4.8 | 11.6 | 20.0 | 7.1 | 12.6 |
| G.C. | World | 130.5 | 331.1 | 18.0 | 9.8 | 13.3 |
| | Industrialised Countries | 53.4 | 123.2 | 19.4 | 6.3 | 12.0 |
| | USA | 11.6 | 26.5 | 15.7 | 8.8 | 11.8 |
| ASEAN-4 | World | 86.5 | 226.3 | 12.3 | 14.8 | 13.7 |
| | Industrialised Countries | 52.0 | 125.4 | 12.2 | 12.9 | 12.6 |
| | USA | 10.8 | 30.0 | 13.7 | 15.2 | 14.6 |
| ASEAN-7 | World | 250.9 | 566.0 | 11.1 | 12.0 | 11.6 |
| | Industrialised Countries | 162.4 | 325.8 | 9.6 | 10.2 | 9.9 |
| | USA | 44.8 | 93.0 | 9.2 | 11.4 | 10.4 |
| Japan | World | 207.6 | 307.2 | 1.0 | 9.1 | 5.6 |
| | Industrialised Countries | 102.1 | 133.9 | -1.3 | 7.8 | 3.9 |
| | USA | 48.6 | 67.2 | -0.4 | 8.4 | 4.6 |

Source: *Direction of Trade Statistics (DOTS),* IMF, 1997 yearbook; June 1998 quarterly.

Notes: 1.) The annualized growth rates are computed as first differences in logs.
2.) ASEAN-4 comprises of Indonesia; Malaysia; Philippines and Thailand. ASEAN-7 comprises of
the ASEAN-4 countries plus Korea; Taiwan and Singapore.
3) The 1997 figures are approximated from the first two quarters of 1997.

**Table 6: Booming Chinese Trade Surpluses - U.S. says "No Problem"**

| Country | | Trade Balance in 1990 | Trade Balance in 1997 | Average Per Year 1990-1993 | 1993-1997 | 1990-1997 |
|---|---|---|---|---|---|---|
| China | World | 39.7 | 111.2 | 48.9 | 83.5 | 70.4 |
| | Industrialised Countries | 23.6 | 91.7 | 35.0 | 66.4 | 54.3 |
| | USA | 11.5 | 45.2 | 17.0 | 35.8 | 28.0 |
| | **Mercantilist Index** | 44.7 | 42.3 | 40.4 | 37.7 | 39.2 |
| G.C. | World | 7.8 | -9.8 | -1.0 | -15.2 | -8.1 |
| | Industrialised Countries | 16.7 | 48.6 | 18.6 | 30.7 | 27.0 |
| | USA | 14.6 | 39.4 | 18.5 | 32.9 | 27.0 |
| | **Mercantilist Index** | 5.7 | -3.1 | 0.2 | -6.1 | -2.5 |
| ASEAN-4 | World | 8.0 | 17.1 | 13.8 | 13.4 | 13.1 |
| | Industrialised Countries | 10.3 | 12.2 | 13.0 | 12.7 | 12.7 |
| | USA | 7.6 | 17.7 | 10.6 | 19.0 | 15.3 |
| | **Mercantilist Index** | -1.1 | -1.8 | 2.1 | -1.1 | 0.7 |
| ASEAN-7 | World | 19.3 | 32.0 | 22.6 | 20.7 | 21.1 |
| | Industrialised Countries | 16.6 | -15.8 | 7.7 | -13.8 | -4.2 |
| | USA | 26.9 | 27.8 | 25.8 | 31.9 | 29.6 |
| | **Mercantilist Index** | -0.03 | -0.06 | 1.1 | -1.4 | 0.05 |
| Japan | World | 101.9 | 151.9 | 139.7 | 166.0 | 151.8 |
| | Industrialised Countries | 81.3 | 86.7 | 93.4 | 92.4 | 91.7 |
| | USA | 44.5 | 54.2 | 51.4 | 59.8 | 55.3 |
| | **Mercantilist Index** | 32.9 | 33.1 | 39.6 | 37.0 | 38.5 |

Source: *Direction of Trade Statistics (DOTS),* IMF, 1997 yearbook; June 1998 quarterly.

Notes: 1.) Figures represent individual country trade surpluses vs. the corresponding entity; World represents total exports. In all instances home country data are <u>not</u> used.

2.) ASEAN-4 comprises of Indonesia; Malaysia; Philippines and Thailand. ASEAN-7 comprises of the ASEAN-4 countries plus Korea; Taiwan and Singapore.

3) The 1997 figures are approximated from the first two quarters of 1997

## Table 7: Japanese Devaluation & the East Asian Crisis

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|
| GDP Growth (%) | 5.0 | 3.9 | 1.0 | 0.1 | 0.5 | 0.9 | 3.6 | -0.2 |
| CPI Inflation (%) | 3.8 | 2.7 | 1.2 | 1.0 | 0.7 | -0.1 | 0.1 | 0.1 |
| Exchange Rates (vs.$) | 134 | 125 | 125 | 112 | 100 | 104 | 116 | 114 |
| Exports ($ Bn) | 309.5 | 335.8 | 363.7 | 388.2 | 426.7 | 480.1 | 457.2 | 459.2 |
| Imports ($ Bn) | 207.6 | 210.3 | 207.0 | 213.7 | 244.6 | 299.4 | 316.6 | 307.2 |
| | | | | | | | | |
| Japan Exports ($ Bn) | | | | | | | | |
| China | 7.7 | 10.0 | 13.7 | 23.3 | 26.3 | 29.0 | 29.2 | 25.4 |
| Greater China | 20.9 | 26.4 | 35.2 | 46.3 | 51.6 | 57.6 | 56.1 | 52.5 |
| Asean 4 | 25.1 | 29.5 | 31.4 | 36.8 | 46.0 | 59.0 | 56.6 | 56.6 |
| Asean 7 | 70.3 | 81.9 | 85.5 | 96.8 | 116.7 | 145.6 | 135.8 | 132.2 |
| USA | 93.1 | 95.0 | 99.5 | 110.4 | 122.5 | 127.2 | 118.0 | 121.3 |
| | | | | | | | | |
| Share of Japan Exports (%) | | | | | | | | |
| China | 2.5 | 3.0 | 3.8 | 6.0 | 6.2 | 6.0 | 6.4 | 5.5 |
| Greater China | 6.8 | 7.9 | 9.7 | 11.9 | 12.1 | 12.0 | 12.3 | 11.4 |
| Asean 4 | 8.1 | 8.8 | 8.6 | 9.5 | 10.8 | 12.3 | 12.4 | 12.3 |
| Asean 7 | 22.7 | 24.4 | 23.5 | 24.9 | 27.4 | 30.3 | 29.7 | 28.8 |
| USA | 30.1 | 28.3 | 27.4 | 28.4 | 28.7 | 26.5 | 25.8 | 26.4 |
| | | | | | | | | |
| Japan Imports ($ Bn) | | | | | | | | |
| China | 9.2 | 10.3 | 11.7 | 15.8 | 21.5 | 28.5 | 30.9 | 28.6 |
| Greater China | 13.9 | 15.6 | 18.0 | 22.7 | 29.9 | 39.1 | 42.7 | 39.6 |
| Asean 4 | 21.0 | 23.1 | 23.6 | 25.4 | 28.2 | 33.8 | 37.4 | 38.1 |
| Asean 7 | 45.9 | 50.1 | 49.5 | 52.4 | 59.2 | 74.6 | 78.6 | 76.7 |
| USA | 48.6 | 48.1 | 47.8 | 48.0 | 53.5 | 64.3 | 67.5 | 67.2 |
| | | | | | | | | |
| Share of Japan Imports (%) | | | | | | | | |
| China | 4.4 | 4.9 | 5.7 | 7.4 | 8.8 | 9.5 | 9.8 | 9.3 |
| Greater China | 6.7 | 7.4 | 8.7 | 10.6 | 12.2 | 13.0 | 13.5 | 12.9 |
| Asean 4 | 10.1 | 11.0 | 11.4 | 11.9 | 11.5 | 11.3 | 11.8 | 12.4 |
| Asean 7 | 22.1 | 23.8 | 23.9 | 24.5 | 24.2 | 24.9 | 24.8 | 25.0 |
| USA | 23.4 | 22.9 | 23.1 | 22.4 | 21.9 | 21.5 | 21.3 | 21.9 |

Source: *Direction of Trade Statistics (DOTS),* IMF, 1997 yearbook.
*Notes*:

1. All export and import figures are based on recipient country data. In the case of Korea and Taiwan, data represents host country (Japan) figures. This is reflected in figures for Asean 7.
2. Data for 1997 reflect figures as of June, 1997, or figures imputed for 1997 based on data till June 1997.

## Table 8: Real Interest Rates and Output Growth – 1981-1996

| | 1981-90 | 1991-95 | 1996 |
|---|---|---|---|
| **World Trade Growth** | 4.1 | 6.3 | 5.4 |
| **World Output Growth** | 2.9 | 2.0 | 2.9 |
| **Output Growth for DCs** | 2.5 | 1.4 | 2.3 |
| **Output Growth for LDCs** | 3.9 | 4.7 | 4.9 |
| **Avg. Short-Term Real Rates for DCs** | 3.9 | 4.8 | 3.3 |
| **Avg. Short-Term Real Rates for LDCs** | 1.6 | 1.8 | 3.8 |
| **Avg. Long-Term Real Rates for DCs** | 5.9 | 7.5 | 6.2 |
| **Avg. Long-Term Real Rates for LDCs** | 4.7 | 5.3 | 6.9 |
| **Volatility of S-T Real Rates for DCs** | 3.2 | 2.4 | 2.2 |
| **Volatility of S-T Real Rates for LDCs** | 9.9 | 8.8 | 7.0 |
| **Std. Deviation of L-T Real Rates for DCs** | 2.9 | 2.9 | 2.6 |
| **Std. Deviation of L-T Real Rates for LDCs** | 10.9+ | 9.0 | 9.3 |

*Source:* The table is extracted from Bhalla, Surjit S. 1997. "*Eureka : KAC and the Laws of Flotation*", Draft for
World Bank Conference on "India: A financial Sector for the 21st Century", Goa, India. December,
1997.

*Notes:*
Short-term rate is either the rate of overnight money or 3-month T-Bill rate, depending on the availability of data. Long-term rate is either the prime lending rate or the 10-year bond rate, depending on the availability of data. Source: IMF, International Financial Statistics
Volatility is measured as the standard deviation of monthly data.

**Chart 1a: Chinese Trade Surpluses, 1990-1997**

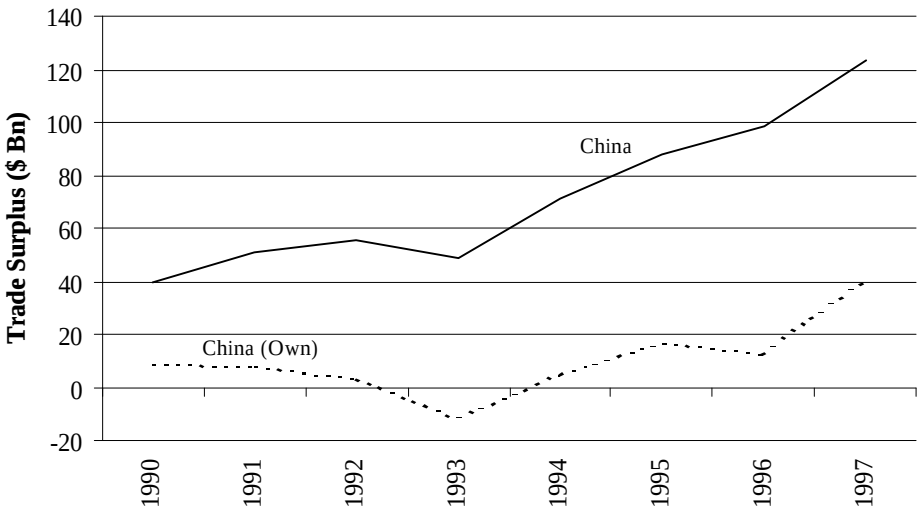
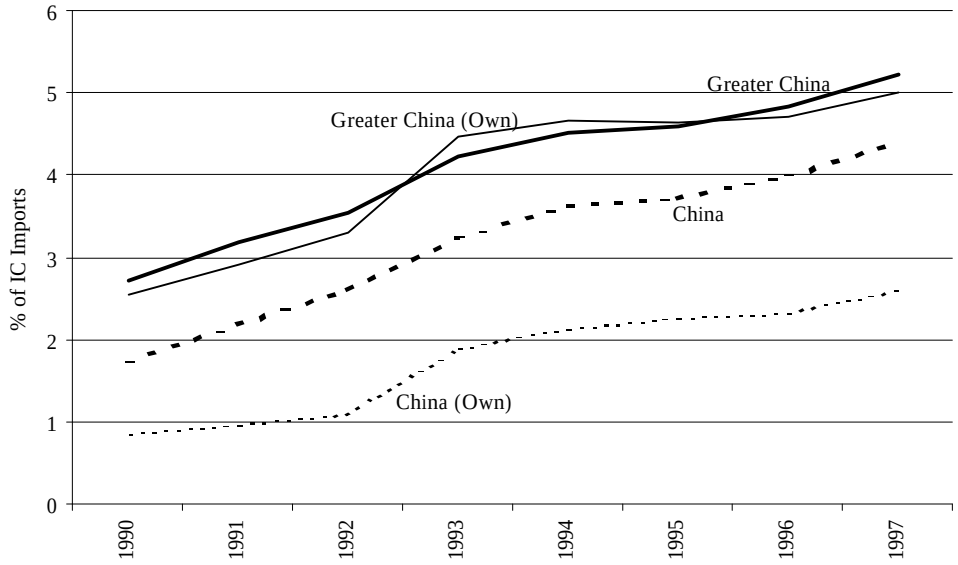



**Chart 1b: Industrialized Countries' (IC) Imports from China, 1990-1997**

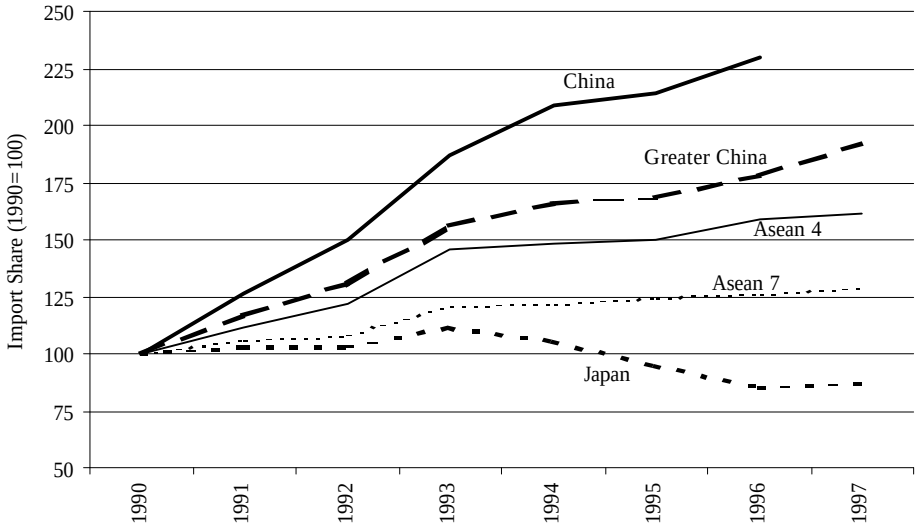



Notes :

1. Greater China is defined as China and Hong Kong.
2. "Own" refers to home country data, i.e., from the country's page in DOTS.
3. Asean-4 comprises Indonesia, Malaysia, the Philippines, and Thailand
   Asean-7 comprises the Asean-4 countries, plus Korea, Singapore, and Taiwan.

*Source : O[x]us Research & Investments Database; Direction of Trade Statistics (DOTS).*

## Chart 2a: IC Import Shares, 1990-1997 (1990=100)




## Chart 2b: US Import Shares, 1990-1997 (1990=100)

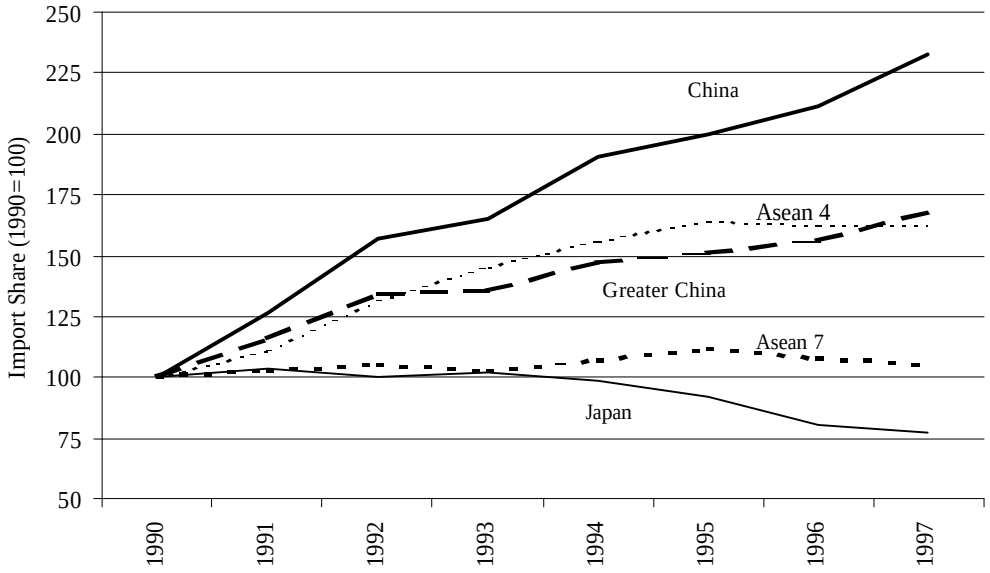


**Chart 3a: Trade Surplus with Industrialized Countries (ICs), 1990-1997**

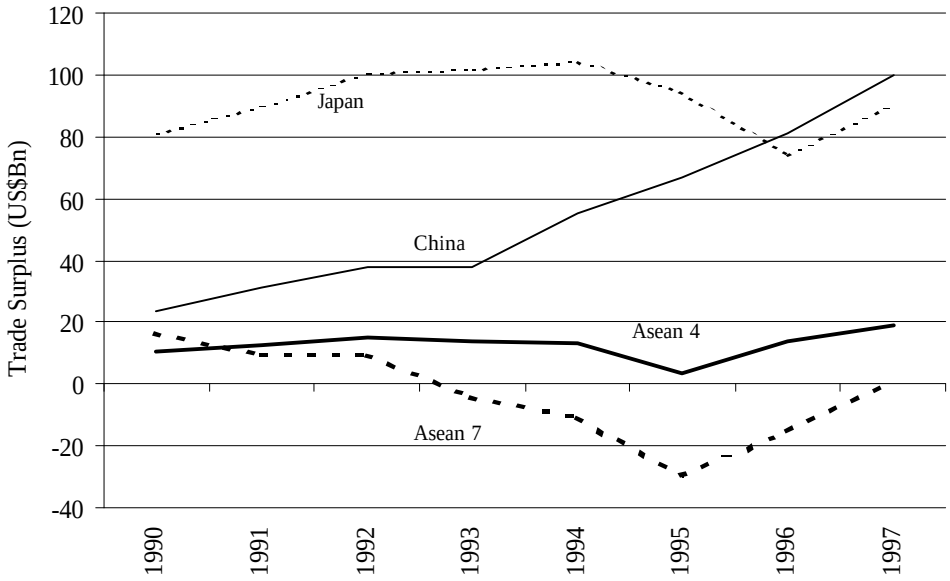
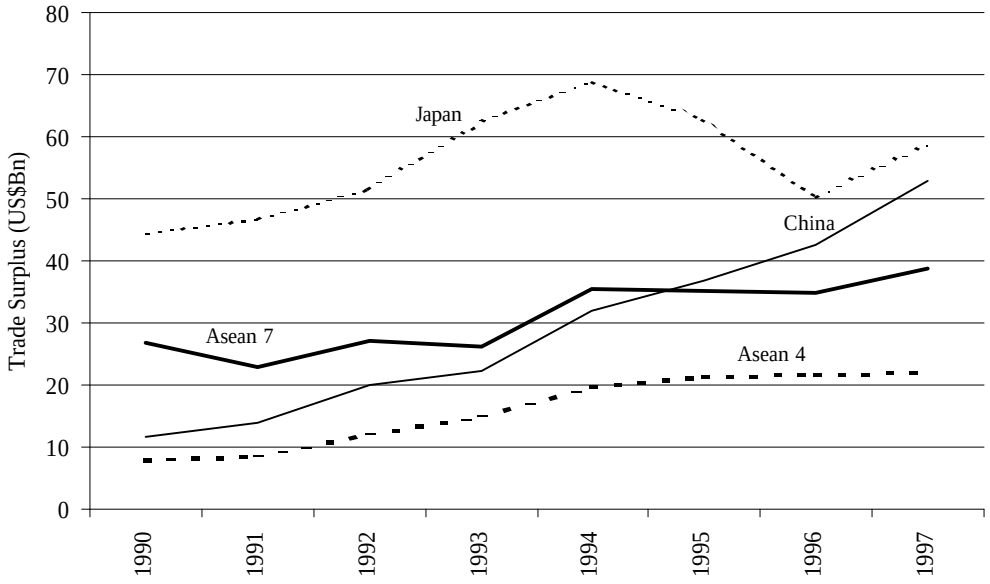



**Chart 3b: Trade Surplus with the US, 1990-1997**




*Source: O[x]us Research & Investments Database; Direction of Trade Statistics (DOTS).*

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