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IMPACT OF THE JAPANESE SLOWDOWN ON THE ASIAN ECONOMIES

Key points:

- *Deteriorating economic conditions in Japan against the background of a global slowdown are posing threats to economic stability in Asia. Nevertheless, as the relative importance of Japan as a source of foreign direct investment and bank lending has declined since the onset of the Asian financial turmoil, regional economies may be less vulnerable than before.*

- *A large depreciation of the yen could have a significant impact on Asia's exports to Japan. Our analysis suggests that exports to Japan from most Asian economies are highly sensitive to bilateral exchange rate movements.*

- *While our empirical analysis does not show the bilateral exchange rates between the yen and Asian currencies as a significant factor affecting Asia's export competitiveness in third markets, there remains the risk that a sharp depreciation of the yen may prompt competitive devaluation in the region, creating another round of financial instability.*

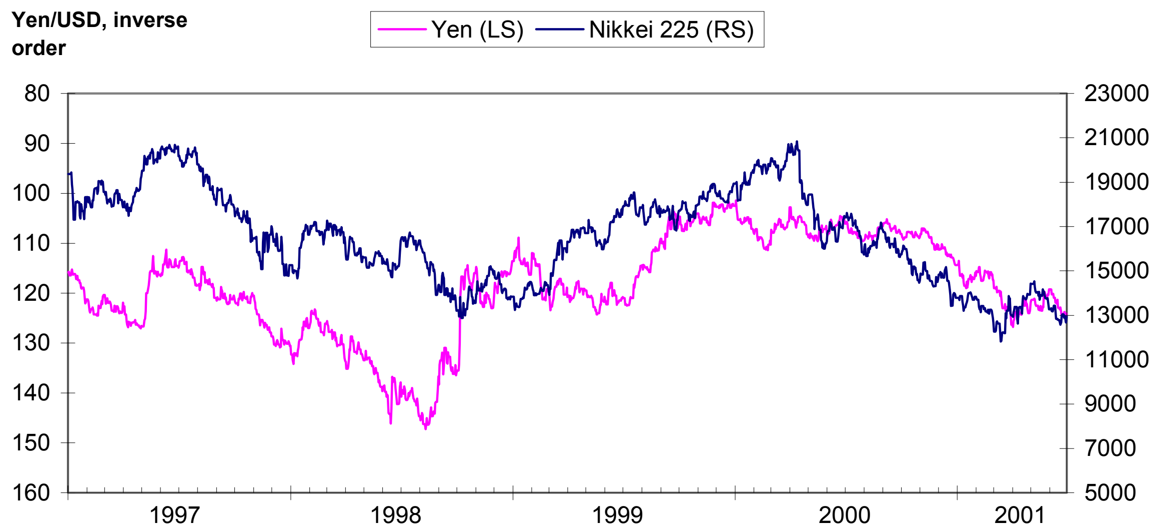
- *A weak yen may also lead to further cuts in Japan's foreign direct investment and bank lending in the regional economies.*

Prepared by: Nicholas Kwan, Daryl Ho & Chang Shu
Economic Research Division
Research Department
Hong Kong Monetary Authority

I. INTRODUCTION

Protracted structural problems in the Japanese economy and the weakness in the yen have been a threat to economic stability in Asia for some time, as evident from problems encountered during the Asian financial crisis. The Japan factor has recently come to the fore again as its economy is decelerating sharply in response to the global economic slowdown. In the first quarter of this year, Japan's economy shrank 0.8% yoy in real terms. With economic activity slackening further in the second quarter, Japan appears to have slipped into the fourth recession in a decade.[1]

Chart 1. Japanese Yen and Nikkei 225 Index



This paper assesses the impacts of the fragility of the Japanese economy and the weak yen on Asian economies. The next two sections examine the transmission mechanisms through the trade and financial channels. Section IV focuses on the implications for the Hong Kong economy, while the final section concludes.

II. TRADE LINKAGES

The trade linkage can be decomposed into a direct trade channel and a competitiveness channel. Our empirical analysis suggests that the bilateral exchange rates between the yen and Asian currencies are one of the key determinants of East Asian exports to Japan. But there is no evidence that export competitiveness of East Asian economies in third markets is undermined by a weak yen.

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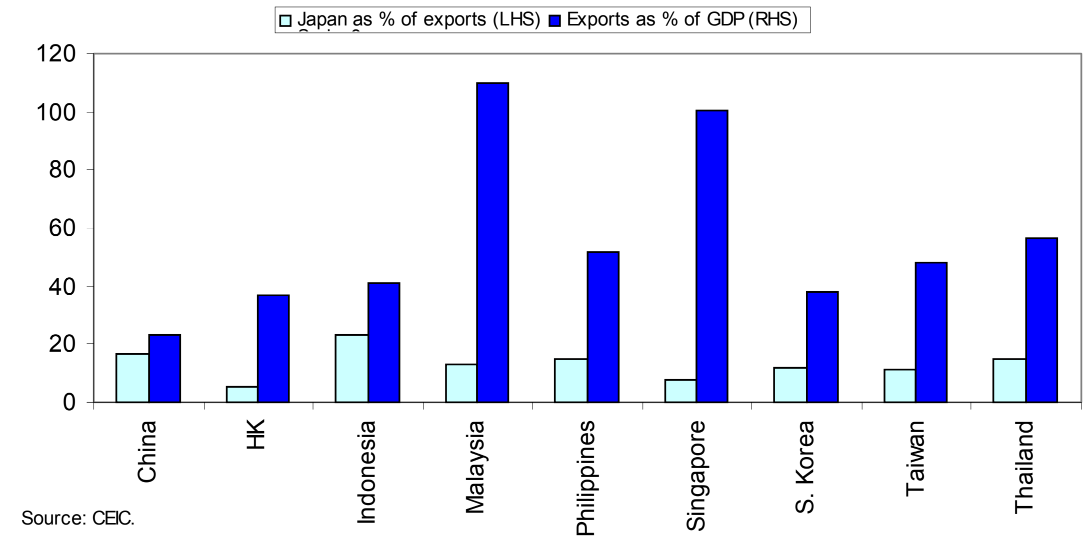
[1] Recession is technically defined as two consecutive quarters of negative economic growth.

a. The direct trade channel

The fragility of the Japanese economy can affect the other Asian economies through its direct trade with the rest of the region. Most Asian economies are highly export-oriented. With the exception of China, Indonesia and Korea, export-to-GDP ratios generally exceed 50%, with that of Hong Kong, Malaysia and Singapore exceeding 100%. Affected by the current weakness in global demand, exports of Asian economies have slowed noticeably, with the year-on-year growth rate decelerating from 27% in Q1 2000 to only 0.5% in the first five months of this year.

Weak Japanese demand was one of the main contributing factors. Japan is the region's second biggest market after the US, absorbing roughly 10% of Asia's total exports. China and Indonesia are particularly dependent on the Japanese market, which takes up about 20% of their outbound trade. Partly due to sluggish growth in the Japanese economy, and partly due to a high base of comparison, year-on-year growth rates of exports to Japan among the nine East Asian economies studied fell by 11 to 58 percentage points in 1Q 2001 from their recent peaks that were mostly recorded in the first half of 2000.[2]

Chart 2. Asian Exports Compared



Note: Given the large presence of the re-export sectors in Hong Kong and Singapore, a more comparable measure of total exports is domestic exports plus the re-export margin. Adopting this definition, HK's export/GDP ratio will be 37% and Singapore's will be 98%. (Since the re-export margin data is not available for Singapore, Singapore's figure is estimated based on Hong Kong's re-export margin).

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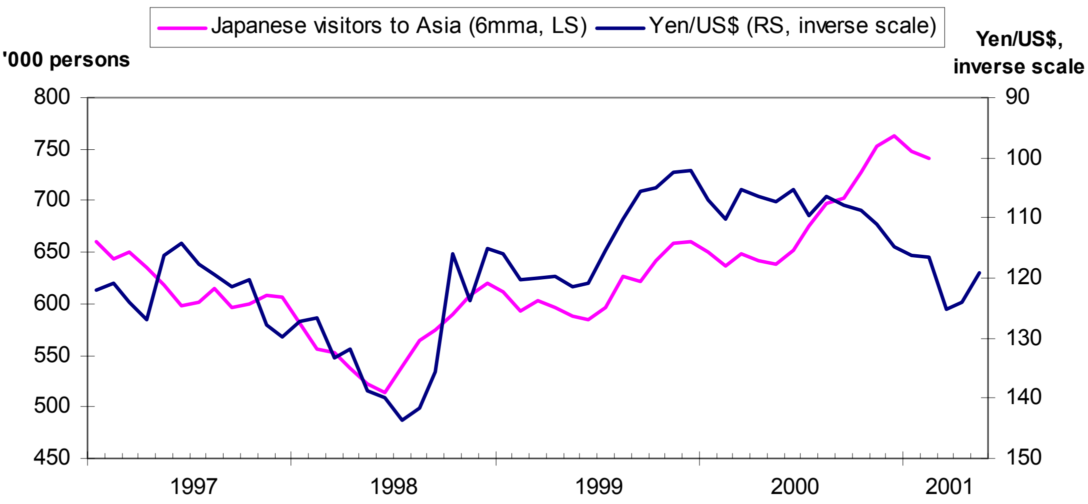
[2] The nine economies are China, Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand, all of which recorded declines in exports during the Asian crisis. Year-on-year export growth began to rebound significantly in late-1999 and early-2000, thus making the deceleration in 2001 appear very significant. For instance, growth of exports from Korea to Japan fell by 58 percentage points from 57% in 4Q 99 to –1% in 1Q 01.

Apart from the state of the Japanese economy, bilateral exchange rates between the yen and the currencies of individual East Asian economies would also significantly affect Japan's demand for imports from these economies. With the exception of Indonesia and Korea, currencies of all Asian economies appreciated against the yen by 7% to 15% between September 2000 and March 2001. Our analysis suggests that exports to Japan are highly sensitive to changes in the real bilateral exchange rate between Japan and individual Asian economies. In particular, if the currencies of Hong Kong, Malaysia, Singapore, Taiwan and Thailand appreciate 10% *vis-à-vis* the yen in real terms, their exports to Japan would be reduced by more than 10% in the long run, while a similar appreciation in the Korean Won would lead to a less-than-10% reduction in the country's exports to Japan. Details of the analysis are presented in the Technical Annex.

Besides merchandise trade, invisible trade is another channel through which Japan contributes to the current accounts of other East Asian economies. Japanese visitors account for about 15% of Asia's total tourist arrivals in 2000. Moreover, there appears to be a strong relationship between the number of Japanese visitors to Asia and the yen/dollar exchange rate, *i.e.* yen depreciation tends to reduce the number of Japanese visitors to Asia.

Chart 3. Japanese visitors to Asia



b. The competitiveness channel

Another way for Japan to affect the export performance of the other Asian economies is through competition in third markets. It has been argued that the weakness of the Japanese yen, which undermined the competitiveness of other Asian economies, was an underlying cause of the Asian crisis. In certain product categories, such as consumer electronics, Japan competes closely with Korea and Taiwan, and increasingly with Singapore, Malaysia and China in third markets such as the US. Our quantitative analysis does not show a statistically significant relationship between the performance of most Asian exporters in the US market and the yen exchange rate against individual Asian currencies. Among the six Asian economies examined, only Taiwan's exports to the US are found to be significantly affected by a weakening of the Japanese yen. More details of this analysis are presented in the Technical Annex.

Although our empirical study does not find the exchange rate to be a significant factor affecting export performance in third markets, some studies (e.g. Takagi (1996)) find that the exchange rates of most Asian currencies against the US dollar appear to be affected by the yen-dollar rate, but the response may be asymmetrical.[3] For example, the Korean won and the Malaysian ringgit tend to move in tandem with the yen-dollar rate when the yen is depreciating, but less so when the yen is appreciating. To the extent such observation reflects the tendency of some regional currencies to track the yen, there is a risk of competitive devaluation should a sharp devaluation of the yen occur.

III. THE FINANCIAL LINKAGE

This section discusses how the fragility of the Japanese economy can affect the rest of Asia through two major channels, namely, the bank lending and the foreign direct investment (FDI) channels. Japan's role as a source of finance for Asia has been diminishing since the onset of the Asian financial crisis. The weakening of the yen may further exacerbate the contraction in Japanese bank lending and FDI in Asia.

a. The bank lending channel

Japan has been the biggest creditor to the rest of Asia. Total bank lending from Japan to nine major Asian economies amounted to US$114bn at the end of 2000, accounting for 25% of total international bank lending to these economies. However, Japanese bank lending to Asia has been contracting in recent years (Chart 4), declining by 70% from the peak of US$378bn in the second quarter of 1995 to US$114bn at end-2000.

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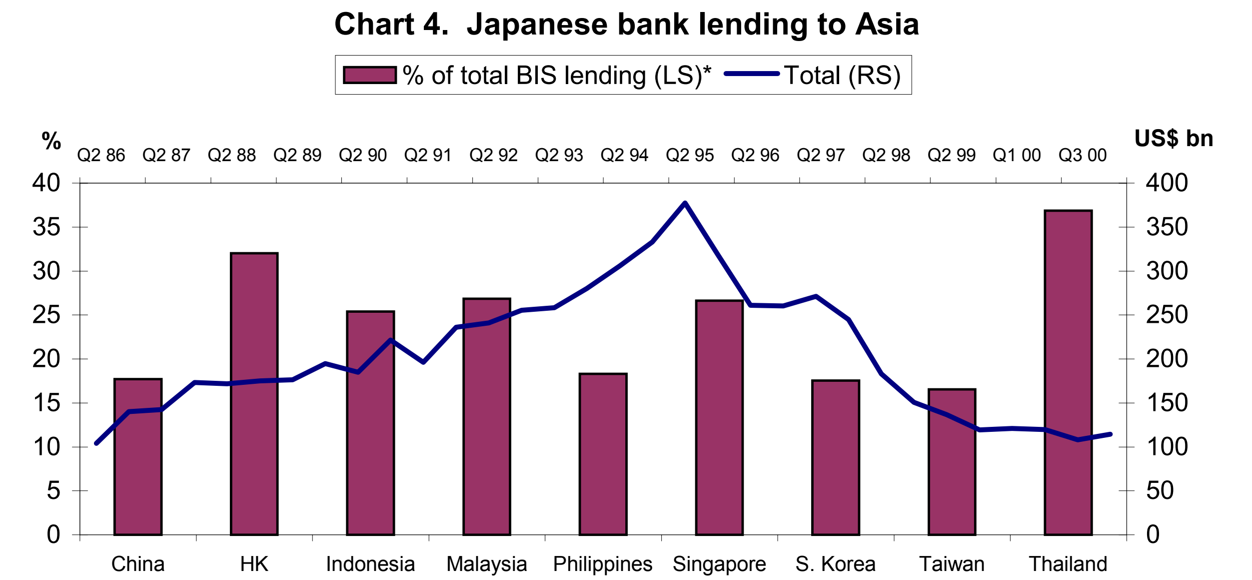
[3] Takagi, Shinji (1996). The yen and its East Asian neighbours, 1980-95: cooperation or competition? NBER Working Paper, 1164.

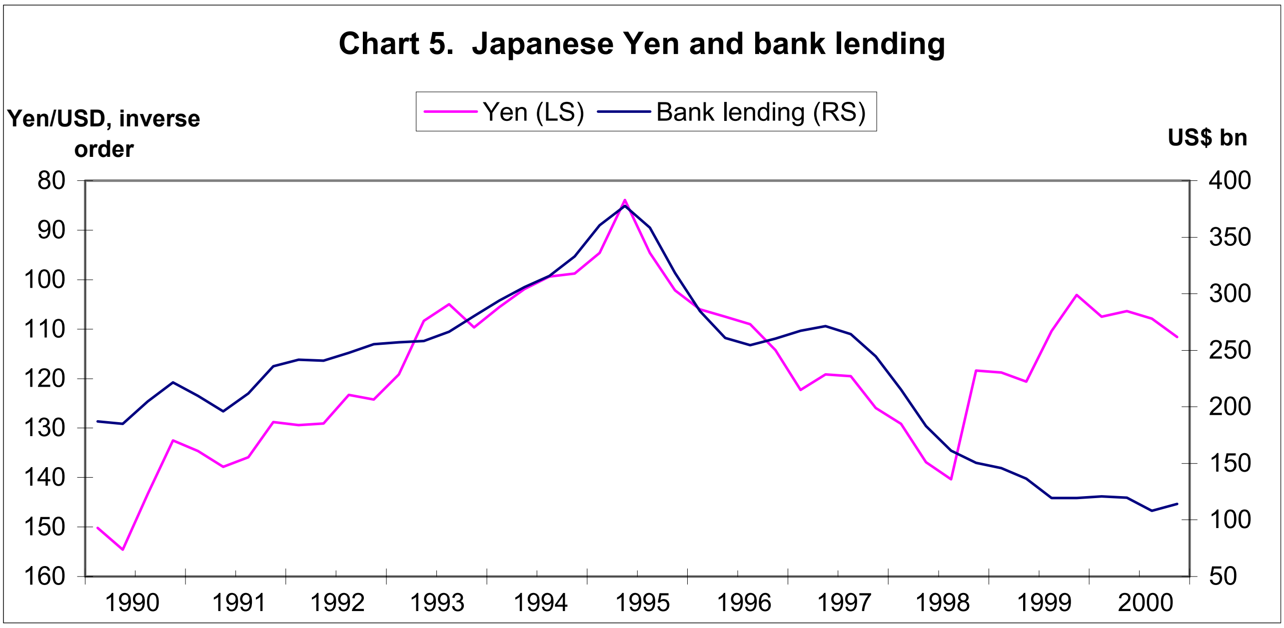


*End-December 2000 data
Source: BIS

A weakening of the yen could well lead to a further decline in Japanese banks' lending abroad. Chart 5 shows a strong relationship between the movement of the yen and total Japanese bank lending abroad in the 1990s: lending rose when the yen strengthened, and fell when it depreciated. This can be partly explained by banks' effort to meet regulatory standards. When the yen weakens, the yen value of foreign loans increases, leading to declines in banks' capital adequacy ratios, thus constraining their lending activity in general. The relationship between the yen exchange rate and banks' overseas lending appeared to have broken down between the second half of 1998 and late 1999, when lending continued to decline despite the rebound of the yen. Although the Asian financial turmoil has subsided, there are no signs of a recovery in Japanese bank lending. Any significant weakening of the yen at this point could further stall the recovery.

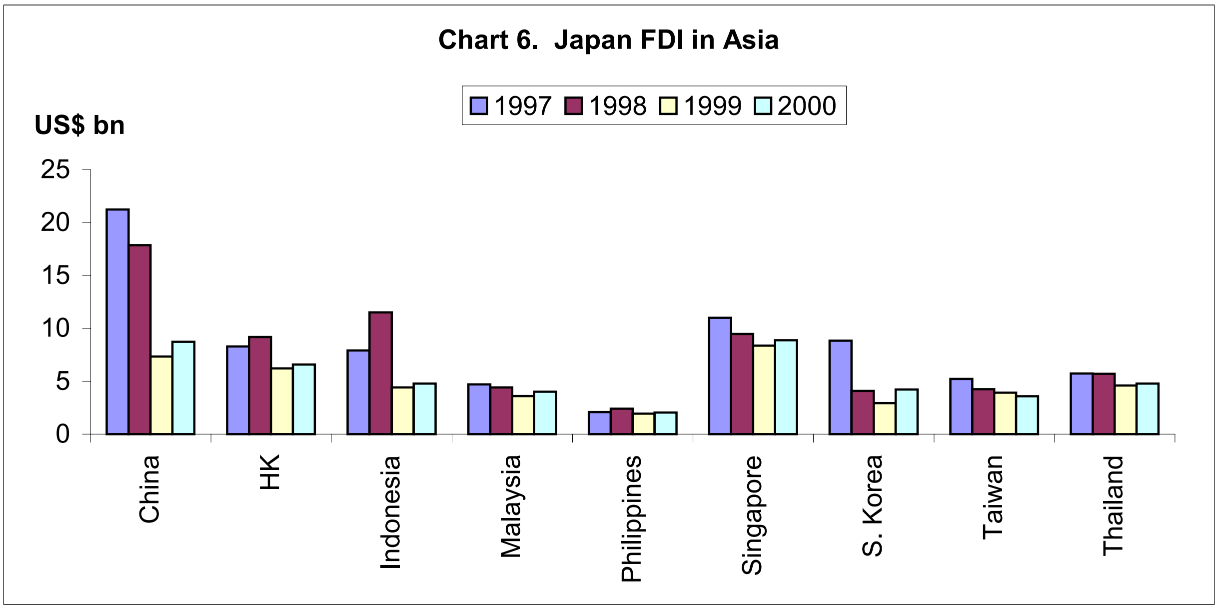
The continued decline in equity prices has also adversely affected the ability of Japanese banks to extend credit abroad. The benchmark Nikkei-225 stock index fell by more than 30% from over 20,000 in 2000 to 12,969 at the end of June this year. This has eroded the balance sheets of the banks in Japan, as Japanese banking sector holds more than 40 trillion yen worth of stocks and shares, or about 5% of the sector's total assets. Since Japanese banks in the past relied partly on capital gains derived from equity holdings to bolster the capital adequacy ratios, the deterioration of capital adequacy resulting from falls in equity prices can further restrain the ability of Japanese banks in extending new loans abroad.[4]

[4] The Japanese government introduced mark-to-market accounting rules that require banks, from April 2001 onwards, to value securities that are held for trading purpose at market prices rather than at book prices. Under the new rule, banks will be required to take losses on shares whose market value is 50% below book value. The effect of the new rule will be reflected for the first time when financial year results for the six months ending September 2001 are reported.



**b.	The FDI channel**

Japan has been the main source of FDI in Asia, particularly in the decade to the mid-1990s, when a strong yen and Japan's trade frictions with the US and Europe induced Japanese manufacturers to relocate away from their home country. However, Japanese investors have been withdrawing from the region in recent years. For Asia as a whole, accumulated Japanese FDI fell US$23 billion between 1997 and 1999. Repatriation was particularly drastic in 1999 with Japanese FDI in Asia falling by US$21 billion. Among the East Asian economies, China and Korea saw the sharpest declines, with accumulated Japanese FDI falling by more than 60% in the year. Although total outward direct investment of Japan reversed its downward trend in 2000, Asia benefited only very modestly. Should the economic situation in Japan continue to deteriorate, the role of Japan as a major source of FDI would be further undermined, posing more challenges to Asia's growth prospect.



IV. IMPACT ON HONG KONG

Although Hong Kong is highly export-oriented with an export-to-GDP ratio close to 80%, Japan as a market accounts for only 5.5% of Hong Kong's total exports.[5] Thus, as compared with most other economies in the region, Hong Kong is less vulnerable to Japan's falling import demand. Our analysis also finds that a weak yen does not have any statistically significant effects on Hong Kong's exports to other destinations such as the US.[6] However, if a weakening of the yen triggers competitive devaluation, Hong Kong with its rigidly fixed exchange rate might be subject to considerable pressure. On the financial front, volatility in other Asian currencies would possibly result in an increase in risk premium. In the real sector, downward adjustment in domestic prices would be required in order to fully absorb such a shock.

In terms of financial linkages, Hong Kong also experienced a significant withdrawal of Japanese finance over the past years. Japan's total foreign direct investment shrank by US$3 billion during 1997-99, or one-quarter of the outstanding Japanese FDI in 1997. In terms of lending by Japanese banks, Hong Kong experienced an exceptionally large decline of US$52 billion, or about 60%, during the period between 1997 and 1999. However, much of the decline was related to euro-yen loans, which do not affect domestic economic activity in Hong Kong. Given ample supply of liquidity in Hong Kong's banking system at present, the negative impact brought about by a further retrenchment in Japanese bank lending is expected to be moderate.

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[5] Total exports is defined as domestic exports plus re-export margin.
[6] See Technical Annex for details.

V. CONCLUSION

The weakness in the Japanese economy against the background of the global slowdown has further clouded the economic outlook for Asian economies. As Japan is one of the biggest trading partners and a major source of tourism income for Asia, slowdown in Japan and a weak yen are already hurting the region. Although empirical evidence suggests that the yen has little impact on Asia's export competitiveness in third markets, there remains a risk that depreciation of the yen might induce competitive devaluation, creating another round of financial instability. Moreover, a weakening of the yen may also exacerbate the contraction in Japanese bank lending and FDI in Asia, a trend that has already been in place since the onset of the 1997-98 financial crisis.

Nevertheless, most Asian economies are in better shape than they were before the outbreak of the 1997-8 crisis. They have much lower levels of short-term debt, are running trade surpluses and have built up foreign reserves. As such, they should be able to withstand external shocks better this time than they did in 1997-98.

Technical Annex

This annex describes the methodology used to analyse the effects of the movement in the Japanese yen exchange rate on Asian exports, and presents the key results. Annual data from 1988 to 2000 are used for studying the following six Asian economies: Hong Kong, Korea, Malaysia, Singapore, Taiwan, and Thailand.[7] The overall impact of the yen on Asian exports is assessed by measuring the sensitivities of two types of exports to the bilateral exchange rate between the yen and individual Asian currencies. The first type is direct exports to Japan, and the second is exports to third markets. Analysis of these two types of exports are summarised below.

<u>Direct exports to Japan</u>

To investigate how variations in the yen exchange rate would affect Japan's demand for Asian products, we assume that direct exports to Japan are a function of the bilateral real exchange rate between Japan and the economy concerned, and aggregate income of Japan. An error-correction model form of such a trade equation is stated as:

$$(1) \quad \Delta EX\_JPN_t = \alpha_1 + \alpha_2 \Delta EX\_JPN_{t-1} + \alpha_3 (EX\_JPN_{t-1} + \alpha_4 REXJ_{t-1} + \alpha_5 FD_{t-1}) + v_t$$

Dependent variable:

- ΔEX_JPN_t: real growth rate of exports to Japan.

Independent variables:

- ΔEX_JPN_{t-1}: lagged dependent variable;
- EX_JPN_{t-1}: lagged real exports to Japan;
- $REXJ_{t-1}$: lagged bilateral real exchange rate *vis-à-vis* the Japanese yen;
- FD_{t-1}: lagged Japan's real GDP as a proxy of aggregate income.

All variables are in the logarithmic form. The data are extracted from the CEIC database. Real bilateral exchange rates are calculated based on export prices and a rise in *REXJ* denotes depreciation. Among the explanatory variables, *REXJ* is of particular interest as it gauges the price competitiveness of an economy's exports in the Japanese market. If a weakening yen has a significant impact on an economy's exports to Japan, the coefficient on *REXJ* would be positive.

The advantage of error correction model is that it allows us to capture the long-run relationship as well as the short-run dynamics. In this study we concentrate on the long-run price elasticities of Japan's demand for Asian exports by using *REXJ* to measure the relative price between a country's products and Japan's products. The upper panel of Table 1 reports these elasticities along with long-run income elasticities of Japan's demand for exports by using *FD* as a measure of income. These elasticities are given by the long-run relationship contained in the export equation, which is the expression in brackets on the right-hand side of (1).

[7] Given only 13 data points in each regression, our results may be subject to certain limitations. For instance, insignificant results may possibly be due to too few data points.

The long-run price and income elasticities are denoted as α_4 and α_5 respectively. An asterisk in Table 1 indicates that the coefficient is statistically significant at the 5% level.

These elasticities suggest that a depreciation in the yen would have significant effects over the long run on exports to Japan from all the Asian economies studied except Korea. These numbers also suggest that a 10% real depreciation of the yen *vis-à-vis* the currencies of Hong Kong, Malaysia, Singapore, Taiwan, and Thailand will lead to a more-than-10% decline in their exports to Japan. In addition, aggregate income in Japan is also an important determinant of exports to Japan for most economies .

Table 1: Long-run relative price and foreign income elasticities of Asian exports

Exports to Japan	HK	Korea	Malaysia	Singapore	Taiwan	Thailand
REXJ	3.17*	0.41	6.13*	4.06*	1.48*	2.76*
FD	2.90*	0.43	8.20*	3.35*	1.87*	3.34*

Exports to the US	HK	Korea	Malaysia	Singapore	Taiwan	Thailand
REXJ	-0.18	1.28	3.9	-0.99	1.02*	-0.01
FD	2.91*	0.34	1.77*	4.41*	0.82*	1.36

Exports to the US

The second type of exports under study is those to third markets. In particular, exports to the US are used in our analysis as the US is the biggest single market for all the Asian countries studied. The analysis is an attempt to observe if exports to the US by individual East Asian economies would be adversely affected by a yen depreciation. A trade equation in the error-correction model form is specified as follows.

$$(2)\ \Delta EX\_US_t = \alpha_1 + \alpha_2 \Delta EX\_US_{t-1} + \alpha_3 (EX\_US_{t-1} + \alpha_4 REXJ_{t-1} + \alpha_5 FD_{t-1}) + v_t$$

Dependent variable:
- ΔEX_US_t: real growth rate of exports to the US.

Independent variables:
- ΔEX_US_{t-1}: lagged dependent variable;
- EX_US_{t-1}: lagged real exports to the US;
- $REXJ_{t-1}$: lagged real bilateral exchange rate *vis-à-vis* the Japanese yen;
- FD_{t-1}: lagged US real GDP as a proxy of aggregate income.

Long-run elasticities of US demand for Asian exports with respect to *REXJ* and *FD* are reported in the lower panel of Table 1. Although a number of Asian economies appear to compete directly with Japan in the US market, the results suggest that exports from most economies to the US would not be adversely affected by a yen depreciation. However, Taiwan is an exception. Our results show that if the yen depreciates by 10% versus the new Taiwan dollar in real terms, Taiwan's exports to the US will fall by around 10%.