

PACIFIC
ECONOMIC
OUTLOOK



PEO/Structure

Exchange Rate Fluctuations and
Macroeconomic Management

Japan Committee for Pacific Economic Outlook

Japan Committee for Pacific Economic Outlook
c/o Kansai Economic Research Center
6-2-27 Nakanoshima, Kita-ku, Osaka 530, Japan
Telephone (81)6-441-5750
Facsimile (81)6-441-5760
E-mail kerc@ar.aix.org.jp

Pacific Economic Cooperation Council (PECC) International Secretariat
4 Nassim Road
Singapore 1025
Telephone (65)737-9823
Facsimile (65)737-9824
E-mail peccsec@pl.apfnet.org
Homepage <http://www.pecc.net>

PACIFIC
ECONOMIC
OUTLOOK



PEO/Structure

Exchange Rate Fluctuations and
Macroeconomic Management

Japan Committee for Pacific Economic Outlook

Pacific Economic Outlook, PEO/Structure.

Exchange Rate Fluctuations and Macroeconomic Management

Published by the Japan Committee for Pacific Economic Outlook.

June 1997.

The views expressed herein are solely those of the authors and do not necessarily reflect the view of their affiliated organizations.

The abstract maps used herein are for illustration purposes only. They are not taken from official sources and do not necessarily represent territorial claims and boundaries. They refer only to the economies associated with PECC Member Committees.

TABLE OF CONTENTS

I. PREFACE

II. OVERVIEW

Introduction and Summary	3
Exchange Rate Fluctuations and Exchange Rate Arrangements	5
Long-Run Equilibrium Exchange Rate	11
Exchange Rates and Macroeconomic Stabilization	15
Conclusive Remarks	25
References	27

III. SUMMARIES OF INDIVIDUAL ECONOMIES

Australia	28
Canada	30
Chile	31
China	33
Colombia	35
Hong Kong	37
Indonesia	39
Japan	41
Korea	43
Malaysia	45
Mexico	47
New Zealand	49
Peru	50
The Philippines	51
Russia	53
Singapore	55
Chinese Taipei	57
United States	59
Vietnam	61

IV. APPENDIX

V. SPECIALISTS ON STRUCTURAL ISSUES

LIST OF TABLES AND FIGURES

- Figure 1 Nominal Exchange Rates: Pacific Region, 1977-96
- Table 1 Exchange Rates Arrangements: Pacific Region, 1980-96
- Figure 1 Nominal Exchange Rates: Pacific Region, 1977-96
- Table 1 Exchange Rates Arrangements: Pacific Region, 1980-96
- Figure 2 Real Effective Exchange Rates: Pacific Region, 1986-96
- Table 2 Estimates of Equilibrium Dollar Exchange Rate
- Figure 3 Real Exchange Rates and Economic Growth: APEC Region, 1973-95
- Figure 4 Manufacturing Shares in Exports and Imports: Pacific Region, 1970 through 1993
- Figure 5 Non-Tradable Prices and Economic Growth
- Figure 6 Inflation and its Volatility: Pacific Region, 1981-85, 86-90, 91-95
- Figure 7 Degree of Openness: Pacific Region, 1980-95
- Figure 8 International Bank and Securities Financing: Asia and Latin America, 1991-95
- Figure 9 Interest Rates in the Industrialized Countries and Equity Prices in the Emerging Markets, 1993-96
- Figure 10 Capital Inflow and Foreign Exchange Market Intervention: Chile, Korea, Malaysia, and the Philippines, 1990/91-94/95
- Figure 11 Real Exchange Rate Elasticities of Exports and Imports: APEC region, 1973-93
- Figure 12 Income Elasticities of Exports and Imports: APEC region, 1973-93
- Figure 13 Exchange Rate Changes and Foreign Direct Investment: Japan, 1965-94
- Figure 14 Effects of U.S. Dollar and Yen Exchange Rate Changes on Net Exports
- Figure 15 Nominal vs. Real Exchange Rate Volatilities: Pacific Region, 1986-90 and 1991-95
- Figure 16 Degree of Financial Deepening: Pacific Region, 1980-95
- Figure 17 U.S. Dollar Share of Foreign Exchange Reserves, International Assets and G-10 GDP

APPENDIX

- Figure A1 Growth Rates: Pacific Region, 1981-95
- Figure A2 Inflation: Pacific Region, 1981-95/96
- Table A1 Nominal Exchange Rates
- Table A2 Real Effective Exchange Rates
- Table A3 Manufacturing Shares in Exports and Imports
- Table A4 Inflation and its Volatility
- Table A5 Degree of Openness
- Table A6 Degree of Financial Deepening

PREFACE

This report on *Exchange Rate Fluctuations and Macroeconomic Management* is the sixth report in a series of studies conducted by Pacific Economic Outlook/Structural Issues (PEO/Structure). PEO/Structure is one of the two study groups within PEO, which itself is one of the task forces under the Pacific Economic Cooperation Council (PECC). PEO/Structure deals with longer-term structural issues in the region, while its twin, PEO/Forecast, is concerned with short-term forecasts.

The purpose of this report is to review the pattern and nature of exchange rate changes in the region in the past two decades, to address to the main issues the policy authorities are confronting, and to provide medium-term policy implications for the coming years. The first part provides an overview of the issues in the region as a whole, and the second part

consists of summary reports of individual countries/regions submitted by specialists from each PECC member economy.

The report is a summary of studies conducted by these specialists under the coordination of Professor Akira Kohsaka, Osaka University, Osaka, Japan. The group held two meetings in 1996 in Osaka, hosted by the Japan Committee for Pacific Economic Outlook. The Committee has been sponsored by the Japanese Ministry of Foreign Affairs and business communities in Kansai region. Ambassador Nobuo Matsunaga serves as Chairman of the Japan Committee for Pacific Economic Outlook. Mr. Masumi Ishikawa, Deputy Executive Director of the Committee Secretariat, coordinates the management of PEO/Structure.

PACIFIC ECONOMIC COOPERATION COUNCIL

The Pacific Economic Cooperation Council (PECC) is a tripartite non-governmental organization committed to promoting economic cooperation in the Pacific Rim. It comprises representatives from 22 Asia-Pacific economies* who meet regularly to work on practical government and business policy issues to increase trade, investment and economic development in the region.

It is the only organization in the region that brings business, government and researchers together on an equal footing to address key trade and investment issues. Though it has an independent agenda, PECC maintains direct links to governments in the region to enable its work to be channeled to Ministers and policymakers.

PECC's substantive work program is carried out by a range of forums, task forces and project groups. These operates in such area:

Capital and Financial Markets; Fisheries Development and Cooperation; Human Resource Development; Pacific Islands Nations; Science and Technology; Minerals and Energy, Telecommunications, Transport, Tourism, Food and Agriculture Trade Policy as well as Pacific Economic Outlook.

PECC actively seeks participation from the World Trade Organization, the OECD, the Asian Development Bank, the World Bank, and United Nations Agencies as well as APEC officials.

For more information on PECC, please contact the PECC International Secretariat.

Address: 4 Nassim Road, Singapore 258372

Phone: 65-737-9823; Fax: 65-737-9824

E-mail: peccsec@pacific.net.sg

PECC Home Page: <http://www.pecc.net>

*22 PECC economies:

Australia, Brunei, Canada, Chile, China, Colombia, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Pacific Nations Islands, Peru, The Philippines, Russia, Singapore, Chinese Taipei, Thailand, the United States, Vietnam

[This section is based on the PECC Home Page.]

OVERVIEW

INTRODUCTION AND SUMMARY

PEO/Structure has conducted studies on *Trade in Goods and Services* and *Capital Flows* in the Pacific region, where we have shared in common closer concerns with the recent trend of increasing interdependence through goods/services and capital flows. The present topic of exchange rate management is meant to be along the same line or its extension.

In the first half of the 1990s, *emerging markets* in the Pacific region experienced booms and busts of capital inflows from industrial countries. One can point out a few structural changes in the international capital market since the *former* Mexican crisis in 1982 (refer to PEO/Structure, *Capital Flows in the Pacific Region*, 1995).

The Mexican crisis in 1994 exposed the reality where of how foreign capital inflows can be a double-edged sword to economic management of developing economies. The more integrated they become, the more likely their domestic policy authorities suffer from external disturbances. Now the authorities have become better aware of the importance of: (1) how to cope with actual and/or potential exchange rate fluctuations; and (2) either how to or how not to adjust exchange rates under the given structural characteristics of their markets, such as underdevelopment, institutional rigidities, etc.

As one of the solutions to the impact of volatile foreign capital flows, a mutual lending scheme of official foreign exchange reserves has been recently made effective among some monetary authorities in the region. This makes, however, only part of the efforts in macroeconomic management which must confront the new reality

of increasing economic interdependence through the higher mobility of products and production factors. This is the very theme we will scrutinize, particularly highlighting macroeconomic management issues facing exchange rate fluctuations.

With these considerations in mind, the objectives of this Overview are to review the pattern and nature of exchange rate changes in the region in the past two decades, to address to the main issues the policy authorities are confronting, and to provide medium-run policy implications for the coming years.

What we have learned from the Pacific experience can be summarized as follows:

The region contains a variety of exchange rate arrangements from a classical peg to a free float, where we find a few distinct groups among them. This reflects not only different economic structures of the member economies, but also their different development stages and histories. In the last two decades we have witnessed large fluctuations of nominal as well as real effective exchange rates in the short run and their fairly large swings in the long run.

Although exchange rate stability is one of macroeconomic policy targets, it is not at all easy to precisely pinpoint what is equilibrium level of exchange rates. In fact, there seems to be no consensus on the *long-run trend of exchange rates*. Nor we can predict the *general long-run equilibrium level of exchange rates*. Because there is no monotonous relationship between economic growth and long-run exchange rates as revealed by the experiences of member economies in the region. Thus, considering equilibrium exchange rates as depending on market conditions and

policy targets in internal and external balances of individual economies, it would be important for the authorities to be able to allow for some flexibility in their real exchange rates.

Exchange rate arrangements are crucial to the choice of macroeconomic targeting. In small open economies the exchange rate stability is almost identical to macroeconomic stability. This is more so in inflationary economies, although, against some shocks, real exchange rate changes would be indispensable in order to ameliorate more serious impacts on other macroeconomic targets.

In large, relatively closed economies, domestic macroeconomic concerns or internal balance naturally could have priority with the help of *insulation effects of freely floating exchange rates*. Even in those economies, however, macroeconomic management must be disciplined and sustainable in the long run. For, such internal-oriented management tends not only to become one of beggar-thy-neighbor nature, but also to lead to medium-run misalignments of exchange rates among major currencies.

The 1990s have witnessed again the boom and bust of capital flows in the Pacific region. While the *securitization* trend in the world capital market is not necessarily uniform in the region, the impact of this upsurge of capital inflow on macroeconomic management in emerging markets is shared in common. First, since portfolio investment from abroad tends to be *volatile* in changing hands quickly responding to expectation and other exogenous factors, it may not necessarily be a reliable source of long-term finance in developing economies. Second, huge capital account surplus exceeding current account deficit tends to generate the symptom of the *Dutch disease*, namely both domestic inflation and exchange rate appreciation.

Whether this symptom turns into full illness or not, depends crucially on the robustness of domestic capital markets, which have been under the recent liberalization trend. Thus, the authorities are facing a hard choice between insulation policies with and without exchange rate adjustments. Surely, regional policy coordination such as a mutual lending scheme and concerted intervention among the monetary authorities in the region would help reduce and divert risks inherent with the volatile flows.

In the short run, changes in real exchange rates appear to affect trade flows to a limited degree and with some lags, though, of course, it depends

on the nature of traded goods. It does not deny, however, that real exchange rate swings may have significant impacts on net exports in the long run. Particularly, given the current asymmetry found in bilateral trade balances in the Pacific region, the yen-dollar exchange rate swings might well magnify the existing asymmetry, reviving politicized arguments.

While there is evidence of insignificant impacts of short-run exchange rate changes on foreign direct investment flows, it is thought that medium- and longer-run swings in real exchange rates should generate irreversible changes in comparative advantage, resulting in major *relocations* of capital and other factors of production.

Finally, under the present generalized float system, the free float can help more or less insulate each economy from external disturbances at least in the medium run. Medium-run insulation, however, does not necessarily guarantee long-run sustainability. This holds true particularly for major currency economies. Under the Bretton Woods system, external adjustments had been asymmetric between a vehicle currency economy (the United States) and non-vehicle currency ones. The former could settle its external imbalance with its domestic currency, while the latter must do it with its foreign reserves.

This situation appears to have continued to date, either as a *hysteresis* or for some other reasons. In the Pacific region, the United States has benignly neglected its external imbalances and Japan has over-react to the yen appreciation. Given the designated as well as actual multilateral situation among major currencies, however, instead of mutually enforcing adjustments under the name of international policy coordination, *symmetrical individual adjustment policies* would be required in order to avoid possible large-scale realignment among major currencies.

The composition of this Overview is in the following: First, we review exchange rate changes and exchange rate arrangements in the Pacific region. Second, we discuss long-run equilibrium exchange rates. Third, macroeconomic policy issues related to exchange rate management are clarified. Fourth, the effects of exchange rate changes on trade and investment flows are examined. We conclude the overview by suggesting some observations for policy implication.

EXCHANGE RATE FLUCTUATIONS AND EXCHANGE RATE ARRANGEMENTS

Nominal Exchange Rate Movements

Figure 1 shows the movements of nominal exchange rates against the U.S. dollar across four groups of economies in the Pacific region for the period of 1977 through 1996. The developed economies (Australia, Canada, Japan, and New Zealand) have been under the free float, and their nominal exchange rates against the dollar had in common a turnaround in 1985-86. While Australia and New Zealand both experienced continuous currency depreciation up to that point in their respective transition processes to the free float, there have not existed any trends of either depreciation nor appreciation since then. The

same holds true for Canada to a far lesser degree. The Japanese yen, however, has exhibited a strong appreciation trend since 1985.

Latin American PECC economies have historically experienced hyper-depreciation. In fact, during 1977-90, the Peruvian new sole depreciated to less than 1/1,000,000 against the dollar, and even the Chilean peso depreciated into one tenth of the initial value. In East Asia, the Indonesian rupiah and the Philippine peso depreciated to a significant degree up to 1985, and have been more or less stabilized in the 1990s. The Hong Kong dollar, the Korean won and the Malaysian ringgit have shown the same patterns, but to a lesser degree. In contrast, the Singapore dollar and the Chinese Taipei's NT dollar seem to have shown long-run appreciation against the U.S.

Figure 1
NOMINAL EXCHANGE RATES: PACIFIC REGION, 1977-96

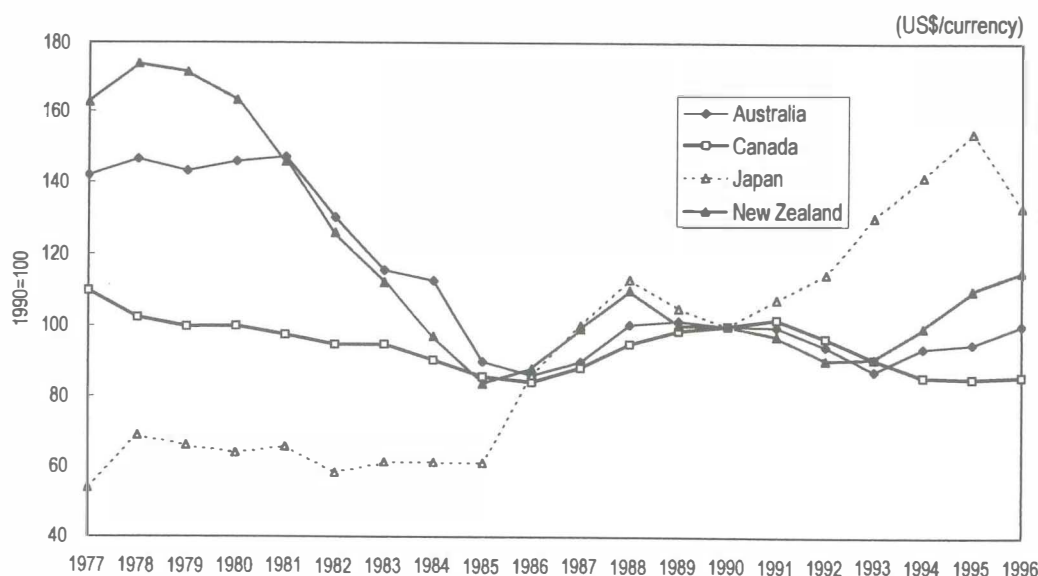
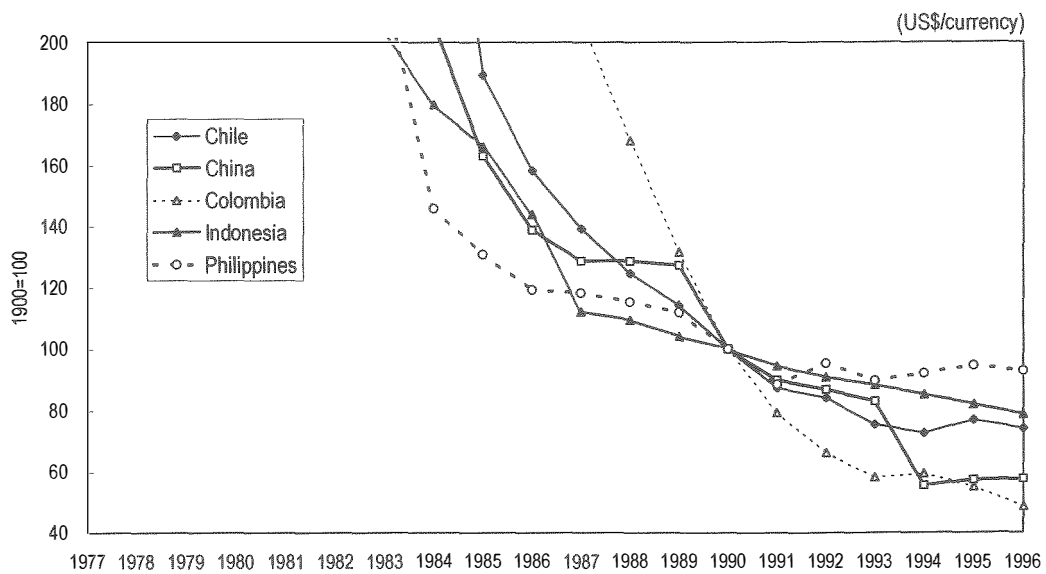
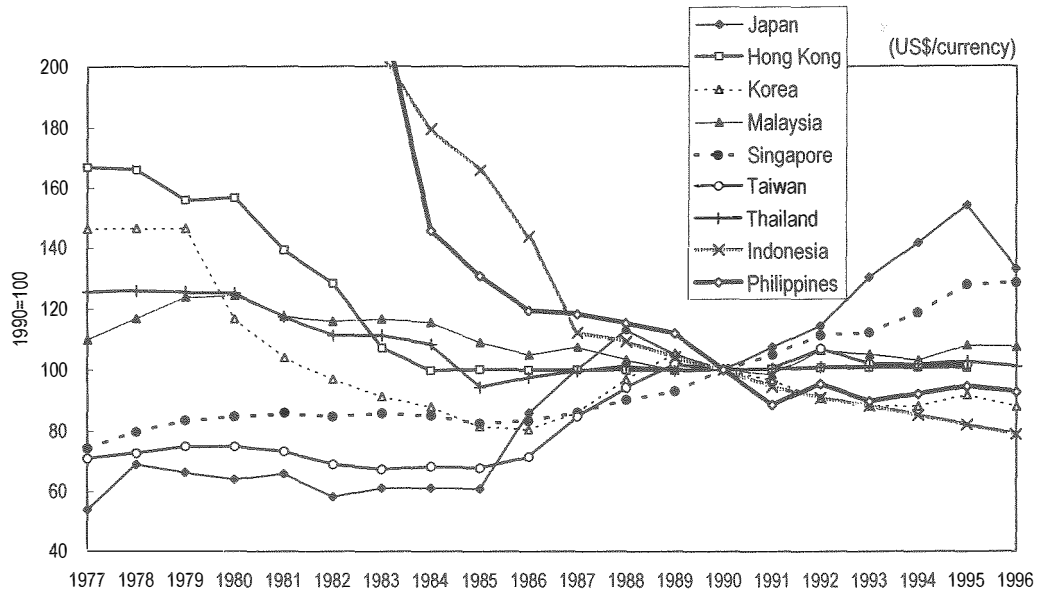
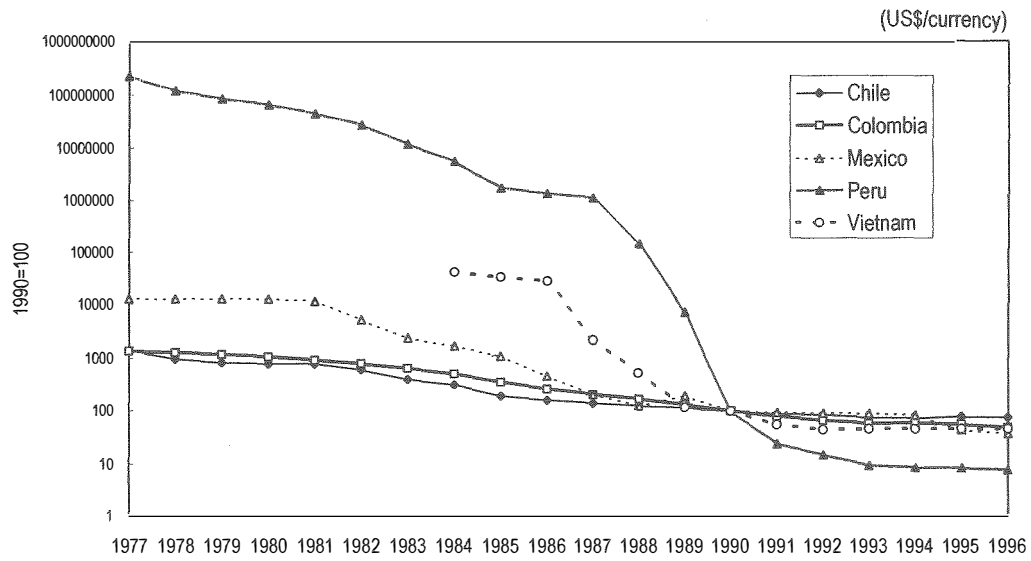


Figure 1 (Continued)
 NOMINAL EXCHANGE RATES: PACIFIC REGION, 1977-96



dollar. Finally, China, Russia, and Vietnam have recently unified their exchange rates and their depreciation might represent, at least partially, a rehabilitation of their prevalent price distortions. Anyway, the apparent depreciation of the Chinese yuan has been almost comparable with that of Indonesia and the Philippines in terms of time profile and size, while that of the Vietnam dong was comparable with those of Latin American currencies.

Choice of Exchange Rate Arrangements

As some economists put it, the Pacific region is an ideal laboratory in pursuit for optimal exchange rate arrangements, because the region consists of quite diverse economies in terms of development stage, institution building, resource endowments, size, and many other aspects. In fact, we can find there a variety of arrangements from a classical peg to a freely floating exchange rate. We must note that this diversity can be found not only across economies, but also across periods in each economy.

Hong Kong shifted from a floating rate system to a pegged one in 1983, although most economies tend to shift the other way around. Mexico has adopted alternate systems since the 1970s, including a fixed rate, a quasi-fixed rate, dual fixed rates, a crawling peg with and without bands, and a freely floating rate. Table 1 summarizes the recent changes in exchange rate arrangements.

The Table shows four distinct groups of economies in terms of exchange rate arrangements in the Pacific region, which may not necessarily be in accord with the IMF classification of exchange rate arrangements (IMF, *International Financial Statistics*). The first group consists of developed economies with relatively well-developed domestic financial markets, including Australia, Canada, Japan, New Zealand, and the United States, which have adopted a freely or "independently" floating exchange rate, while Australia and New Zealand joined the club rather recently (1983 and 1985, respectively). The second group includes Hong Kong, Korea, Malaysia, Singapore, Chinese Taipei, and Thailand. Most of these countries have adopted a floating rate regime, but their exchange rates are more or less managed in practice, while Hong Kong has adopted a U.S. dollar peg, and Thailand a basket peg (until July 1997). In fact, the two countries' exchange rates have been maintained within a relatively narrow range, and have not

shown a strong trend of either appreciation or depreciation.

While these economies in Asia have recorded relatively good inflationary performance, the third group — Chile, Colombia, Indonesia, Mexico, and the Philippines — have had to tackle domestic inflation by adopting either a crawling peg with/without a band, or an occasionally adjusted peg. In these economies, a long-run trend of nominal depreciation can be found. The last group consists of economies in the process of overall structural adjustments — China, Peru, Russia, and Vietnam — where exchange rates have been recently unified and either virtually pegged or managed floating. These economies, except for China, have tried very hard to stabilize nominal exchange rates to cope with hyperinflation, rather recently in the 1990s, while China had a similar problem, but to a much lesser extent.

Each exchange rate arrangement has its own merits and demerits depending on the particular economic environment, so that there is no all-weather optimal exchange rate regime. A fixed or pegged exchange rate has often led investors into excessive exposure to exchange rate risk and/or provided them with one-sided speculative profits. A floating rate might be able to evade this, and would help moderate exogenous shocks such as changes in the terms of trade and volatile capital flows, without placing too much adjustment burden on other domestic macroeconomic variables.

Exchange rate fluctuations by themselves are, however, the source of uncertainty, which may destabilize price levels and reduce investment, thereby reducing economic growth. A stable exchange rate could be an important signal to the market of the official commitment to stability, which indeed has been the rationale for Hong Kong to stick to its "dollar-link" system to minimize the impact of political uncertainties in the early 1980s. This simply amounts to float with the dollar against all the other currencies, though. Once popular exchange-rate-based stabilization programs, while successful in controlling inflation, have often been maintained too long, thereby leading to persistent exchange rate overvaluation and generating suspicion of sustainability.

In practice, most developing economies as well as those in the Pacific region deliberately manage their exchange rates, holding substantial amounts of foreign exchange reserves. Some economies (e.g. Chile, Colombia, Indonesia, and Russia) have adopted a pre-announced exchange rate band

Table 1
EXCHANGE RATES ARRANGEMENTS: PACIFIC REGION, 1980-96

Country / Region	Exchange Rate Arrangement (adopted year)
Australia	Basket Peg (1976) Free Float (1983)
Canada	Free Float
New Zealand	Basket Peg (1973) Crawling Peg (1979) Basket Peg (1983) Free Float (1985)
Chile	Dollar Peg (1979) CP with band (1984)
Colombia	Crawling Peg (1967) CP with band (1991)
Mexico	Dollar Peg (1976) Crawling Peg (1983): Dual Ex Rate Crawling Peg (1987): Nominal Anchor CP with band (1991) Free Float (1994)
Peru	Crawling Peg (—87): Multiple Ex Rate (85-89) Pegged (1987) Crawling Peg (1989) Managed Float (1990)
Indonesia	Dollar Peg (1978) Managed Float (1983) Crawling Peg (1986) CP with band (1994) Managed Float (1997)
Malaysia	Managed Float
Philippines	Managed Float
Thailand	Basket Peg Managed Float (1997)
Hong Kong	Free Float (1974) Dollar Peg (1983)
Korea	Managed Float
Singapore	Managed Float
Chinese Taipei	Managed Float (1979)
China	Dollar Peg: Multiple Ex Rate Managed Float (1994): Unified
Vietnam	Dollar Peg (1989): Unified
Russia	Dollar Fixed (1989): Multiple Managed Float (1992) Managed Float with band (1995)
Japan	Free Float
United States	Free Float

Source: Country Papers submitted to PEO/Structure Meeting (September 1996).

Note: Revised as of May 31, 1997.

which is both to anchor expectation and to make room for real adjustment. What matters here is the sustainability of the exchange rate. This is not necessarily a nominal exchange rate, but a real one.

Real Exchange Rate Movements

An important point here is the fact that not only nominal exchange rates but *real* exchange rates have exhibited large swings in the last two decades. One might describe these large swings as *over-shooting* beyond "some" equilibrium levels. Fluctuations of *real effective exchange rates* (exchange rates adjusted for inflation differentials with trading partners) in the Pacific region for the period of 1986 through 1995 are illustrated in Figure 2. Among developed economies, no trend

of real appreciation/depreciation can be found in Australia, Canada, and New Zealand, while real appreciation and depreciation trends are observed in Japan and the United States, respectively.

In Latin America, Chile and Colombia have shown similar patterns of real depreciation in the late 1980s and then of appreciation in the 1990s, while Mexico showed a persistent appreciation trend up to the crisis in 1994. Except for China, emerging markets in East Asia have experienced relatively small changes in their real exchange rates, while the Philippines seems to have had a slight appreciation trend. One may note that Figure 2 clearly demonstrates large swings of real exchange rates particularly in free floating economies.

Figure 2
REAL EFFECTIVE EXCHANGE RATES: PACIFIC REGION, 1986-96

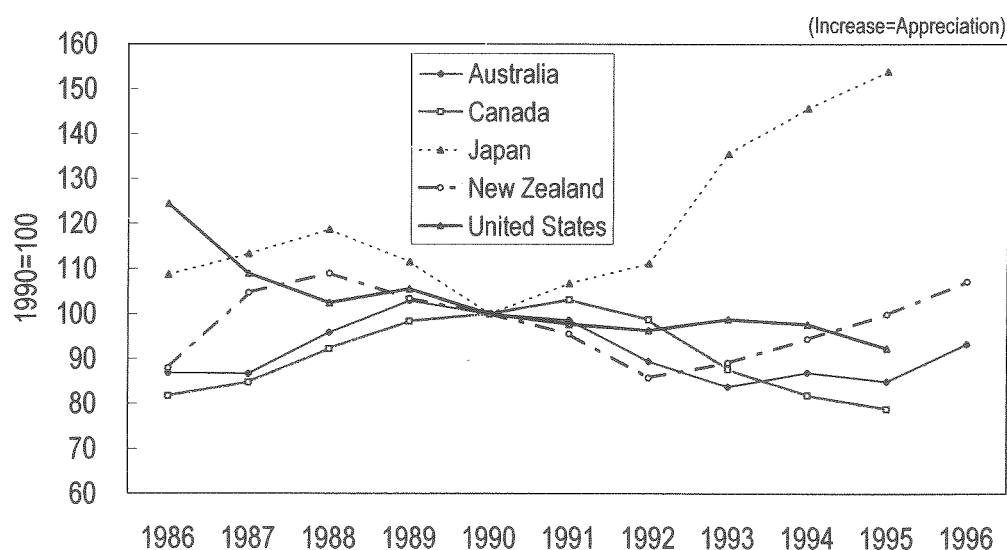
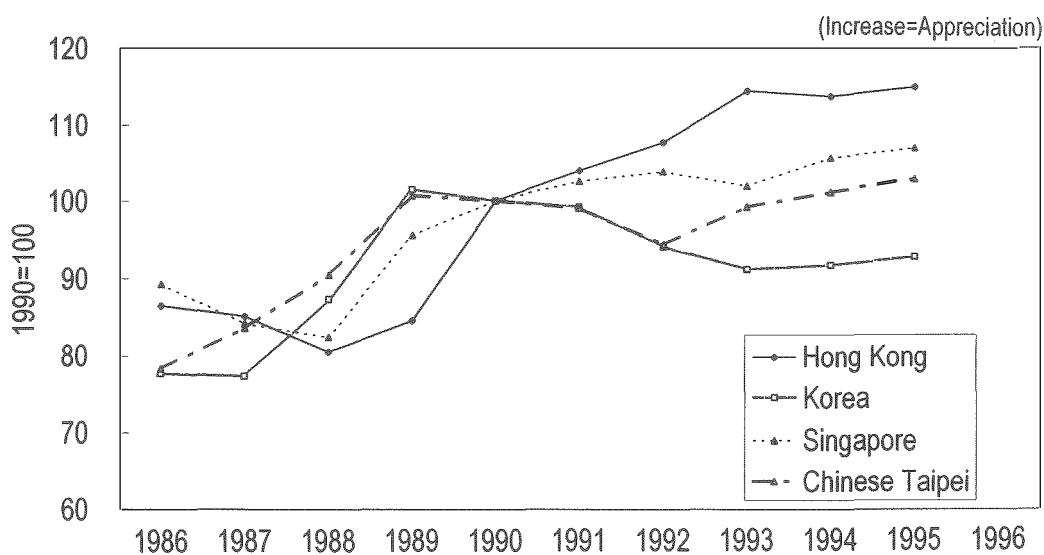
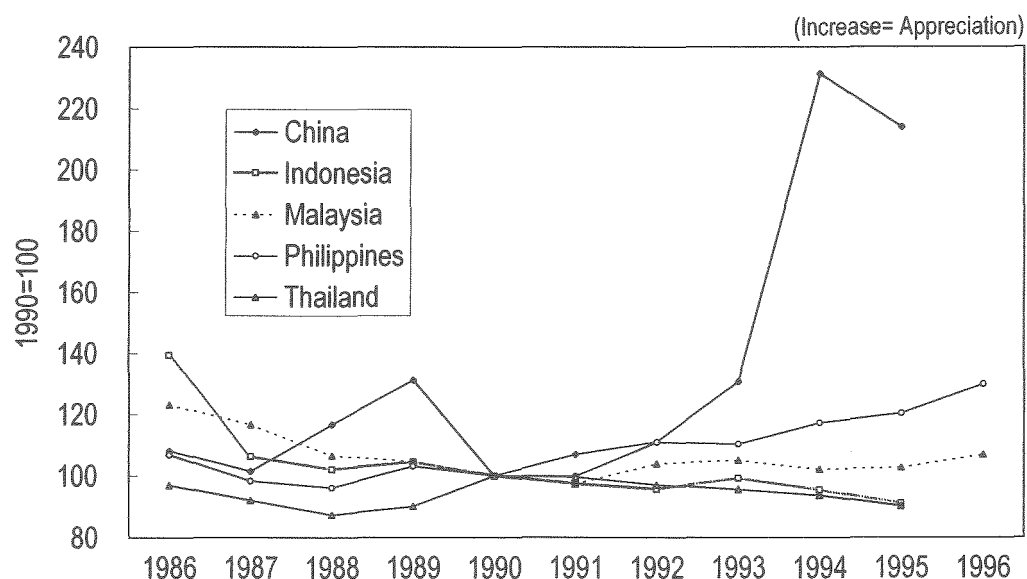
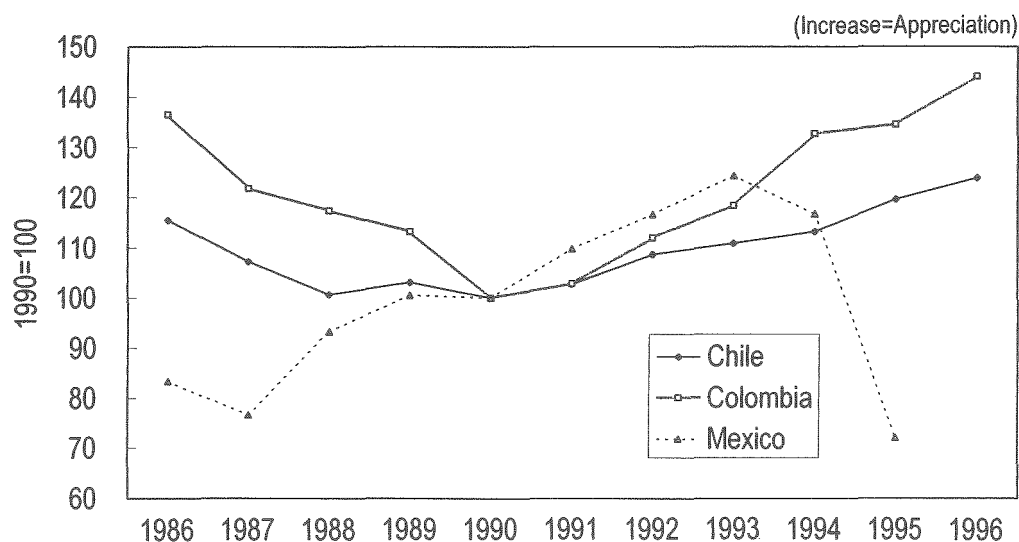


Figure 2 (Continued)
REAL EFFECTIVE EXCHANGE RATES: PACIFIC REGION, 1986-96



LONG-RUN EQUILIBRIUM EXCHANGE RATES

Equilibrium Exchange Rates

Since the collapse of the Bretton Woods regime, we have witnessed exchange rates easily moving out of line with *economic fundamentals* even in the medium-run (say quarterly or longer), namely *currency misalignments* for a prolonged period. It is true, however, that it is generally not easy to exactly identify misalignments or a deviation from the fundamental relationship between the *equilibrium* exchange rate and other macroeconomic variables. Table 2, for illustration, shows actual and four estimated equilibrium exchange rates based on three alternative hypotheses on long-run exchange rate determination.

Apparently, the Table implies the non-existence of a consensus on the equilibrium exchange rate, although one may note the closeness of the two estimates among the four, i.e. between the productivity-adjusted PPP (Purchasing Power Parity) and the one based on

macroeconomic fundamentals. A number of studies suggest the mean-reverting nature of actual rates as well as of deviations from estimated equilibrium exchange rates. This implies that there seems to be a strong fundamental arbitrage mechanism in international transactions with both goods and financial assets. Without the benefit of hindsight, however, it would be generally hard to determine what exactly is the equilibrium level of exchange rates.

Accordingly, one may make a very large prediction error (say, the order of 20 percent or more) in claiming the *long-run equilibrium level* of exchange rates by calculating productivity-adjusted PPP or other fundamental rates. It does not necessarily mean, however, that one could not correctly predict the future course of the long-run equilibrium exchange rate. Can something definite be concluded about the *long-run movement* of real exchange rates? Drawing on the recent research by Ito, Isard, and Symansky [1997], we can make the following observations.

Table 2
ESTIMATES OF EQUILIBRIUM DOLLAR EXCHANGE RATE

Estimates of the US dollar's purchasing power parity and fundamental equilibrium value					
	Market rate*	Purchasing power parity (PPP)		PPP adjusted for productivity	Fundamental equilibrium exchange rate
		OECD	Penn	Goldman Sachs	IIE
Deutsche Mark against the dollar	1.53	2.10	2.12	1.41	1.45–1.50
Yen against the dollar	107	184	188	107	100
* On 15th May 1996.					
Sources: OECD, Penn World Tables 5.6, Goldman Sachs and John Williamson's informal update of estimates in <i>Estimating equilibrium exchange rates</i> , Institute for International Economics (IIE), Washington, D.C. (September 1994).					

Long-Run Exchange Rate Changes

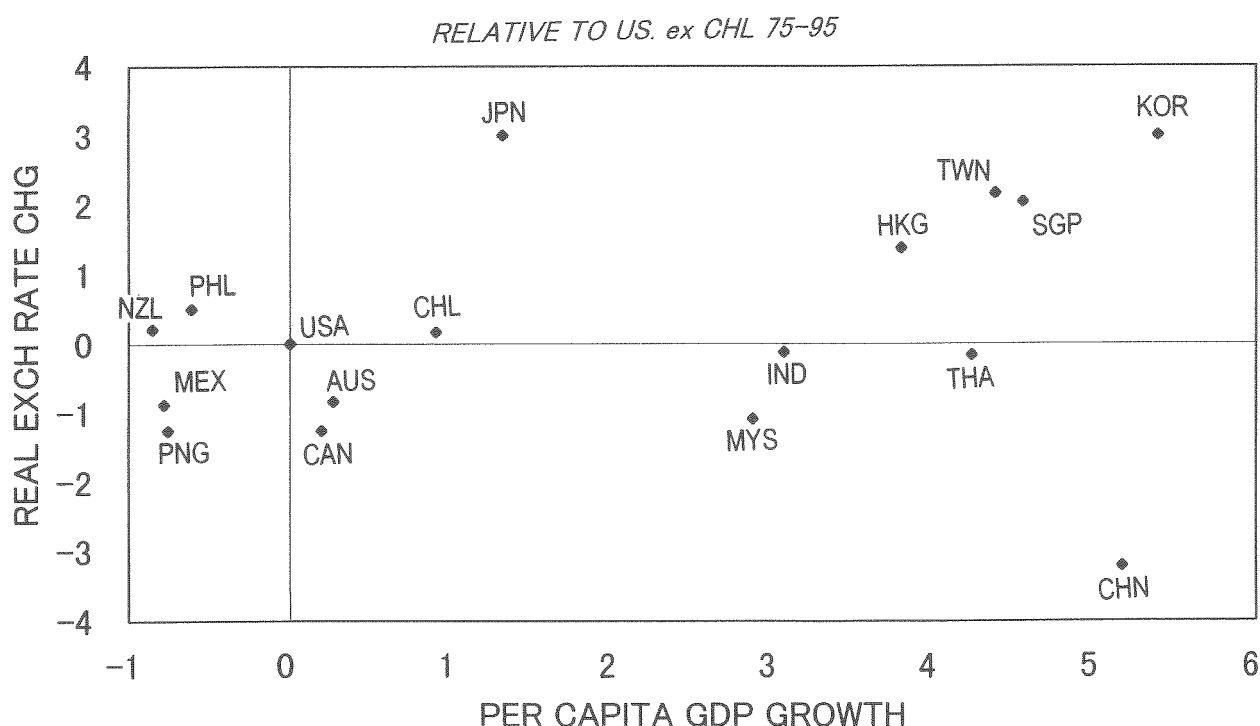
As for real exchange rates, we must distinguish between two concepts of relative prices, i.e. domestic to foreign tradable prices, and non-tradable to tradable prices. It had been thought according to the Balassa-Samuelson theory that the former tends to be stable through the PPP relationship, and that the latter tends to rise.

The theory claims: The relative price of non-tradables to tradables tends to rise, because the productivity increase in the latter tends to be higher than in the former. Then, since faster growing economies tend to have higher productivity growth, *the real exchange rate of faster growing economies tends to appreciate against slower growing economies*, due to differentials in relative price changes. Figure 3 depicts the correlation between relative per capita income growth rates and relative real exchange rate changes across 18 APEC member economies over the period of 1975 through 1995.

If higher growth generates real exchange rate appreciation, there should be a positive correlation or an upward sloping relation in plots, which in fact is not very explicit. The supposed positive correlation can be found in some cases such as Japan, Korea, Chinese Taipei, while it is not difficult to point out many outliers such as Chile, China, Indonesia, Malaysia, Singapore, and Thailand. It suggests that long-run real exchange rate movements may not be monotonous, and that they depend on development stages and country-specific factors.

More precisely, two basic presumptions made in the BS theory do not always hold. The first presumption, i.e. PPP with tradables may not hold. The relative price of tradables across economies (i.e. the terms of trade) is not constant because of changing compositions of tradables, as well as different natures of tradables. Primary goods such as crude oil and agricultural products are internationally homogeneous goods, whose prices

Figure 3
REAL EXCHANGE RATES AND ECONOMIC GROWTH: APEC REGION, 1973-95



Source: Ito et al. [1997]

fluctuate and seem to have a downward trend. A part of manufacturing products are differentiated goods, whose prices are sticky and often oligopolistically determined. One may presume that, relative to trading partners, the larger the share of differentiated manufacturing goods in exports (imports), the higher (lower) the relative tradable price.

In fact, Figure 4 shows changes (overall increases) in manufacturing shares in exports and imports in the Pacific region over the past few decades, which demonstrates rapid changes in the composition in trade, especially in exports, in some economies. Three distinct groups of economies can be identified in the region in terms of manufacturing shares in exports: *Primary goods exporters* (Australia, Chile, Colombia, and New Zealand), *manufacturing exporters* (Hong Kong, Japan, Korea, Singapore, Chinese Taipei, and the United States) and *intermediate exporters* (all the others). Primary goods exporters have increased their manufacturing shares in exports, but not comparable to larger changes in some intermediate exporters' shares such as those of

Indonesia, Malaysia, Mexico, Philippines, and Thailand.

While there have been small changes in export shares in manufacturing exporters and on the import side in the region as a whole, one may be aware that Japan has increased its manufacturing share in imports significantly. This reflects profound changes in its comparative advantage in the recent past. Note should be taken here that, although some refer to this trend as a manufacturing hollowing-out, there appears no hint of decline in Japan's manufacturing export share. Besides, the relative price of Japanese tradables, or the terms of trade, against the rest of the world has actually risen. Put differently, Japan would have a shift of comparative advantage even within manufacturing industries, where relative tradable prices would not necessarily be constant.

Turning to the second presumption, the relative price of non-tradables does not necessarily rise, either, if its productivity grows faster than that of tradables, which seems to be verified by Figure 5. Singapore is a good example due to its fast growing financial sector with higher productivity.

Figure 4
MANUFACTURING SHARES IN EXPORTS AND IMPORTS: PACIFIC REGION, 1970 THROUGH 1993

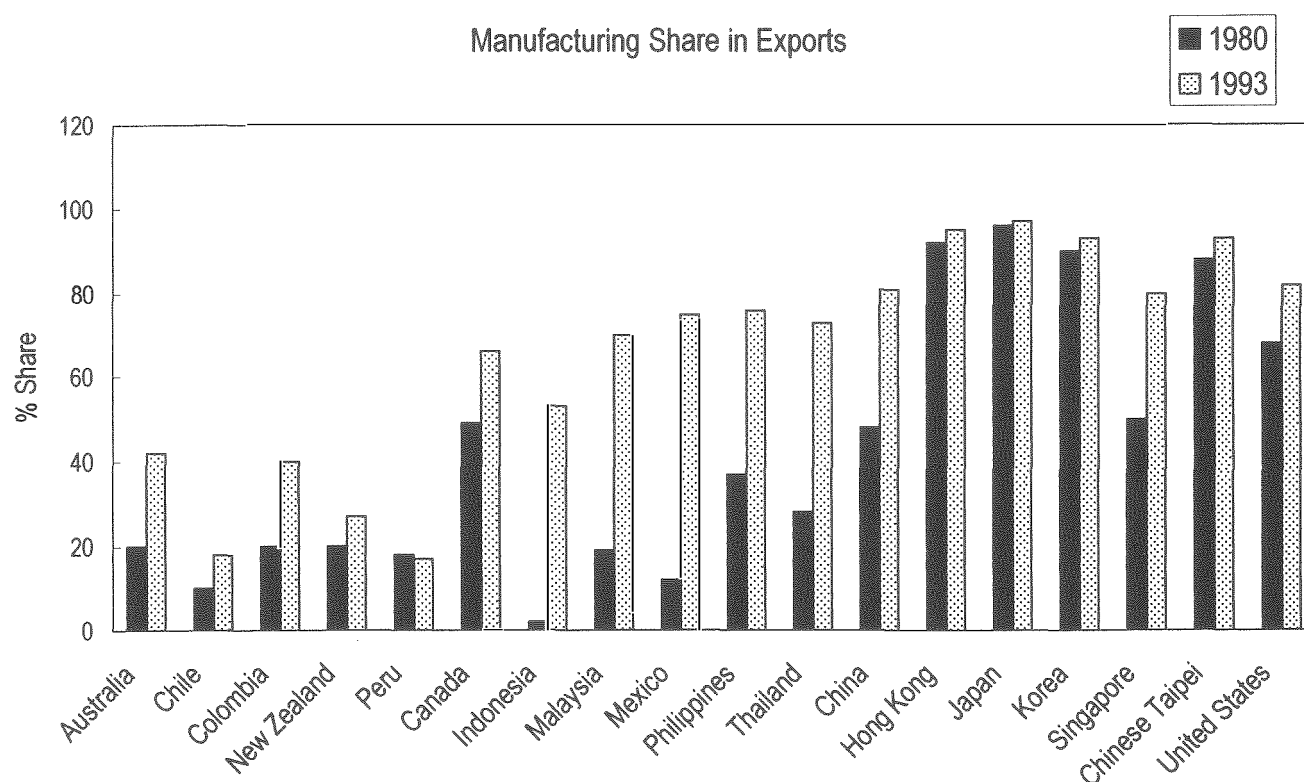


Figure 4 (Continued)
MANUFACTURING SHARES IN EXPORTS AND IMPORTS: PACIFIC REGION, 1970 THROUGH 1993

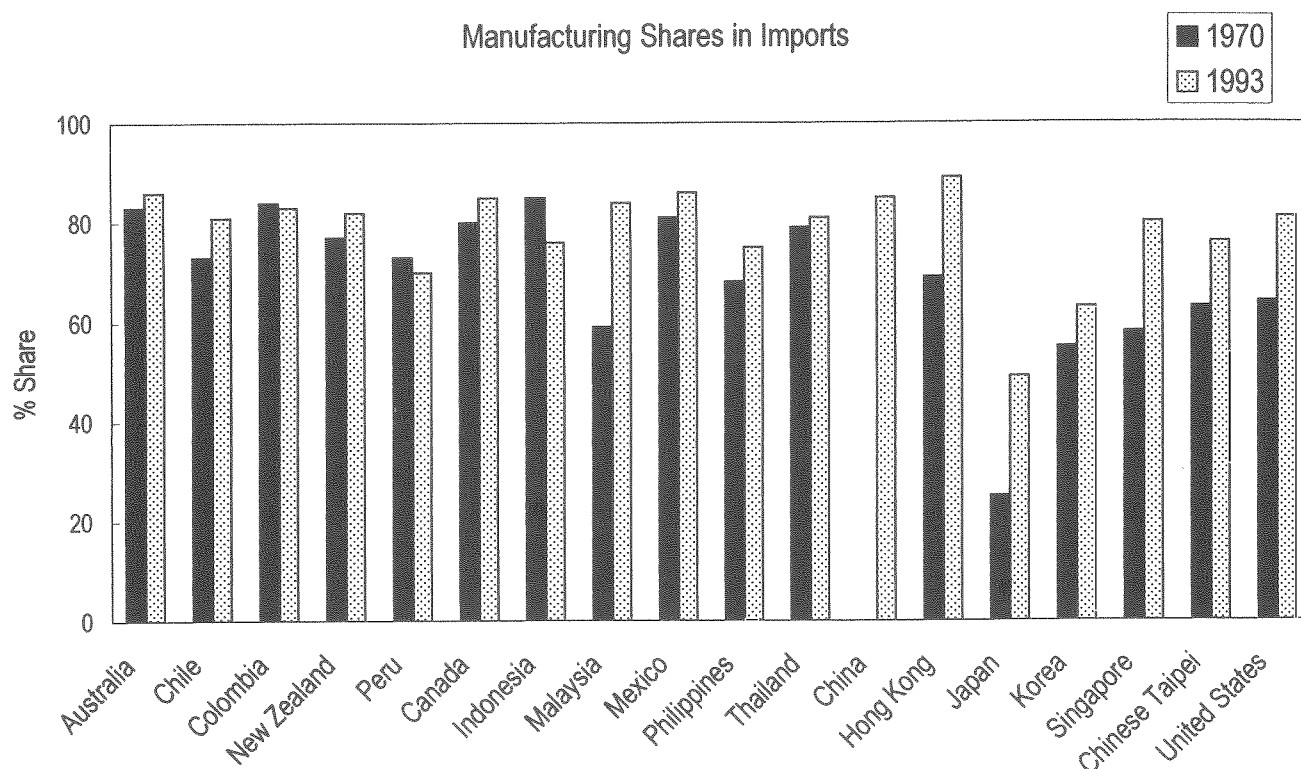
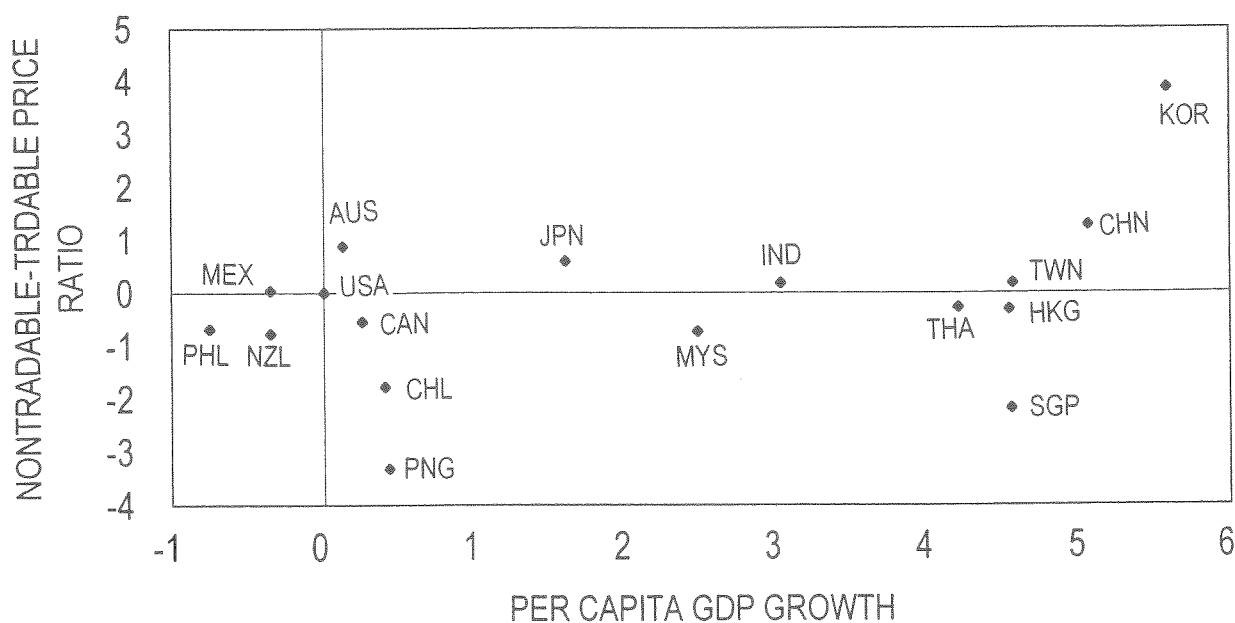


Figure 5
NON-TRADABLE PRICES AND ECONOMIC GROWTH
 1973-93, UNLESS NOTED



Notes: Sample periods are 1973-93. However, data restrictions limit the sample periods of the following countries as noted. Australia, 1974-93; Canada, 1973-92; Chile, 1975-88; Korea, 1973-92; Malaysia, New Zealand, 1977-92; PNG, 1980-93; Hong Kong, 1975-93.
 Source: Ito et al. [1997]

Where are we now? The bottom line is that *there is no unique, monotonous relationship between real exchange rates and economic growth in the long run*, because both tradables and non-tradables have changing compositions and different productivity growth between and within themselves in the long run. The fact that one cannot generally predict in what direction the real equilibrium exchange rate will proceed in the long run, however, does not necessarily deny the importance of the effects of exchange rate changes on other macroeconomic variables.

EXCHANGE RATES AND MACROECONOMIC STABILIZATION

Macroeconomic Targeting

It is well known that exchange rate arrangements are crucial to the choice of macroeconomic policy targeting. Under a fixed exchange rate regime with high capital mobility as in Hong Kong, monetary independence has to be abandoned, which implies that there would be no room left for domestic interest rates to be used as policy instruments. Meanwhile, under a freely floating rate with high capital mobility, we would argue that exchange rate targeting could endanger the internal balance, which might have really been the case in the late 1980s in Japan. How can the target of macroeconomic stabilization be achieved under different exchange rate arrangements in the Pacific region?

In some economies in East Asia with comparatively good records in inflation control (Asian NIEs and some ASEAN economies), they seem to have been able to maintain some equilibrium levels of real effective exchange rates compatible with some sustainable levels of external imbalances (either surplus or deficit). Since these economies have been successful in keeping domestic inflation moderate, all they have to do is to control both prices (managing nominal exchange rates) and quantities of foreign capital flows (occasional capital controls). In fact, their inflation differentials from the rest of the world have been at most negligible, and their real effective exchange rates have shown comparative stability.

In very small open economies such as Hong Kong and Singapore, domestic prices and interest rates have been largely determined in the

international market. Then, nominal exchange rates could literally give a nominal anchor to domestic monetary developments. In Hong Kong monetary policies have been bound to the exchange rate target, while Singapore allows exchange rates to move under close surveillance.

Other economies with more or less harsh inflation episodes in the last two decades (Latin American members, Indonesia and the Philippines in East Asia) have seemed to utilize exchange rate management as an important instrument to fight off domestic inflation. Some countries, particularly those in Latin America in the 1980s, tried to fix nominal exchange rates as a nominal anchor to control inflation, but had difficulties, because, with resulting persistent real exchange rate appreciation, they could not convince the public on the sustainability of these exchange rates.

A crawling peg with band is presumed to make use of the merits of both flexible exchange rates and stable real exchange rates. Chile, Colombia, and Indonesia (and Russia) have recently adopted the scheme. Crawling or continual small adjustments in an exchange rate would be necessary to compensate for inflation differentials if the domestic inflation rate is expected to be persistently higher than those of the trading partners for the foreseeable future. Pegging or fixing an exchange rate against a single foreign currency or a basket of currencies in some duration would be indispensable to anchor inflationary expectation by pronouncing official commitment to the exchange rate stability. And finally, a "band" would be preferable for the exchange rate to adjust to short-run disturbances to a certain degree, without eroding public confidence in the parity rate.

In order for a band crawling peg to be successful, however, the parity or the central rate must be set at a sustainable level. Otherwise, the pegged exchange rate system is always prone to a speculative attack in a one-sided way. As illustrated in Figure 6, the higher the inflation rate, the more volatile it would be. Therefore, the more likely for the exchange rate to move out of line unexpectedly. Volatile inflation would result in volatile real exchange rates, hence volatile nominal exchange rates. In economies with recent inflationary experiences, the volatility of nominal exchange rates are, by themselves, the source of inflationary expectations.

Figure 6
INFLATION AND ITS VOLATILITY: PACIFIC REGION, 1981-85, 86-90, 91-95

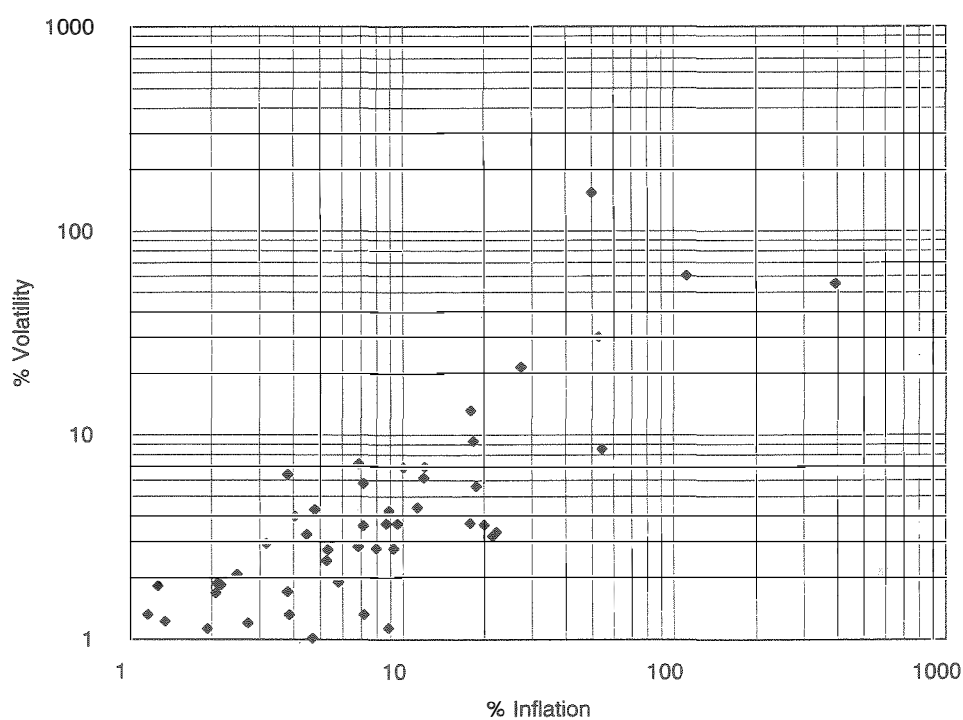
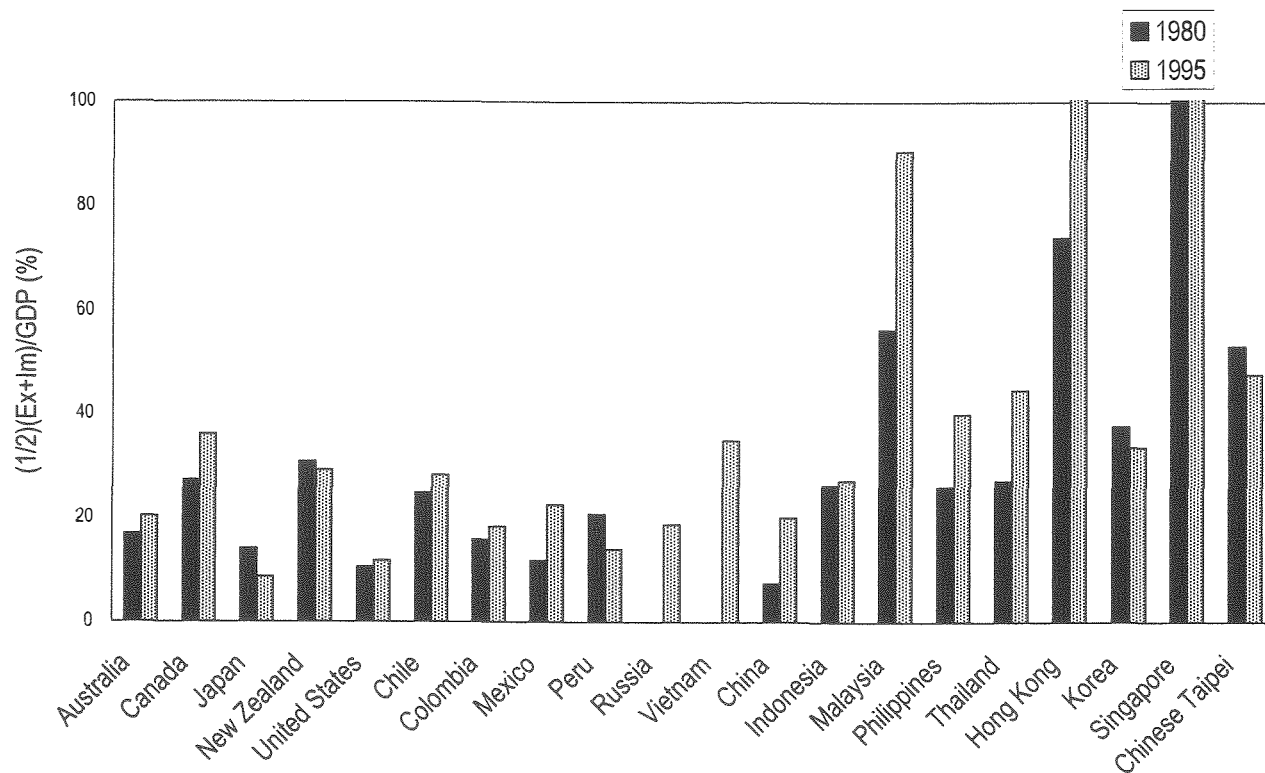


Figure 7
DEGREE OF OPENNESS: PACIFIC REGION, 1980-95



Among developed economies, the feature of small open economies, as mentioned for Hong Kong, and Singapore, may apply to Australia, Canada, and New Zealand. Capital mobility leaves little room for monetary instruments to affect external adjustments. Rather, since they are primary goods exporters, the volatile changes in commodity prices affect their terms of trade, thereby producing changes in real and nominal exchange rates.

Japan and the United States are large and relatively closed economies (See Figure 7), and both have experienced not only large short-run fluctuations, but also large medium-run swings in real as well as nominal effective exchange rates (Figures 1 and 2). External adjustments by exchange rate changes, however, are believed to be rather weak.

Having observed these common features, we may find contrast in their policy targeting. Namely, while the exchange rate stability is of low priority in the U.S., it seems to have some importance in Japan. The United States has benign-neglected the exchange rate stability in a consistent way. By contrast, Japan has been constantly worried about yen appreciation (or dollar depreciation) and its recessionary impact in

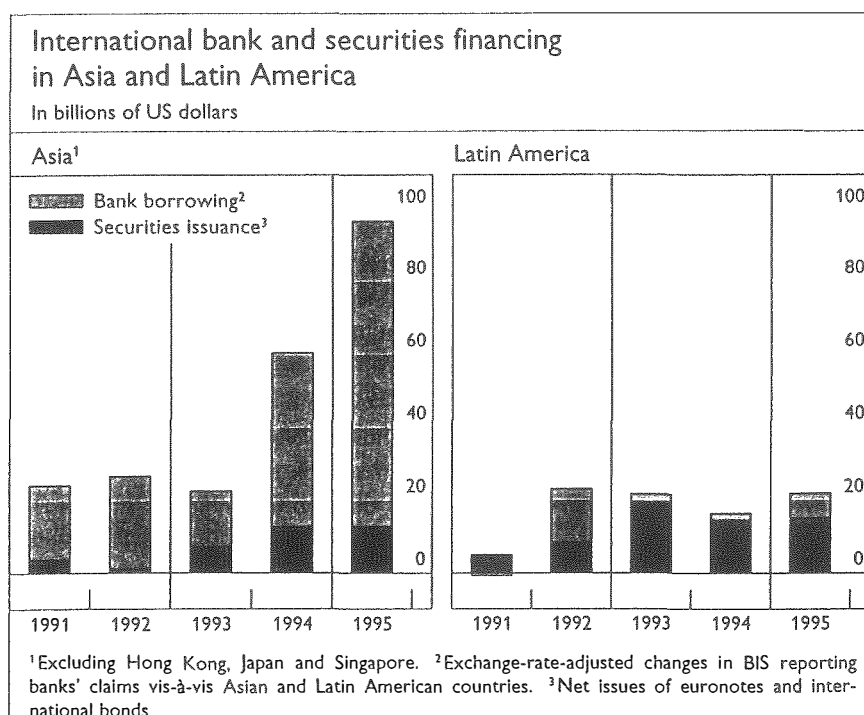
the short run and the loss of confidence in the dollar in the long run, thereby tending to adopt excessive precautionary measures (monetary expansion), hence the 1972-73 inflation and the bubble economy in the late 1980s.

A Recent Surge in Capital Inflow

Private capital flows had continued to increase in the early 1990s in emerging Pacific region markets in both Latin America and Asia. This trend showed a temporary halt in 1994 because of the Mexican Currency Crisis, but it soon recovered and resumed especially on the Asia side. While the boom in capital flows was ignited first in Latin America in the form of portfolio investment, those flows into Asia have been mainly bank lending (Figure 8).

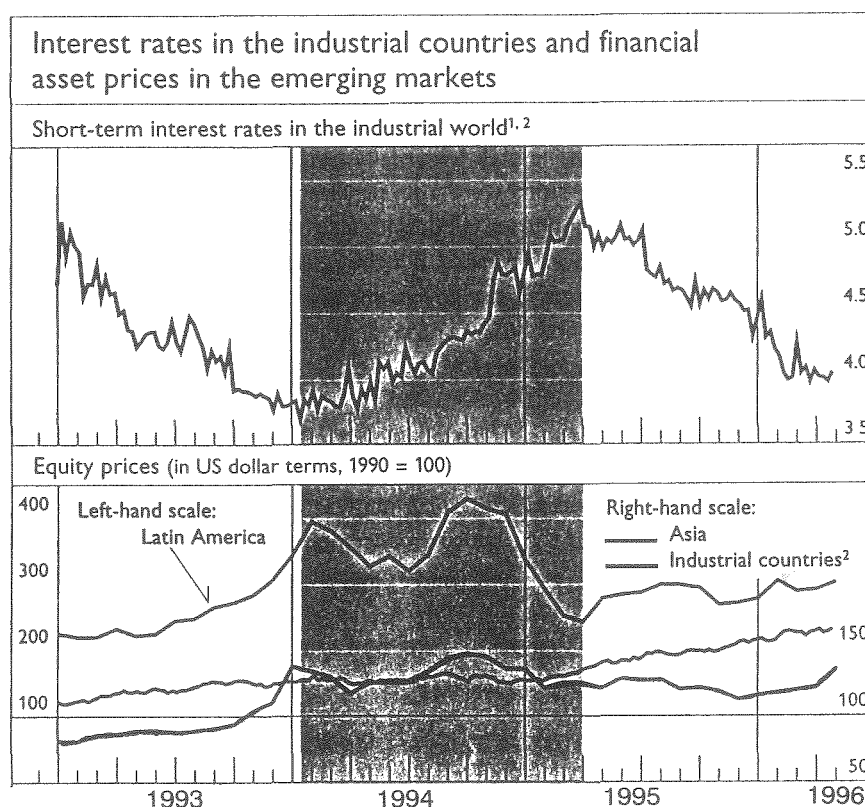
The boom can be attributed to several cyclical as well as structural factors. Business cycles in industrialized economies, particularly lowering interest rates, have been the strongest and the most direct driving force to realize this kind of huge capital flows to high-growth developing economies (See Figure 9). The growth of institutional investors and deregulation of international investment in industrialized economies are an important supply-side factor of

Figure 8
INTERNATIONAL BANK AND SECURITIES FINANCING: ASIA AND LATIN AMERICA, 1991-95



Source: BIS, Annual Report 1995/96, 1996

Figure 9
**INTEREST RATES IN THE INDUSTRIALIZED COUNTRIES
 AND EQUITY PRICES IN THE EMERGING MARKETS, 1993-96**



Source: BIS [1996]

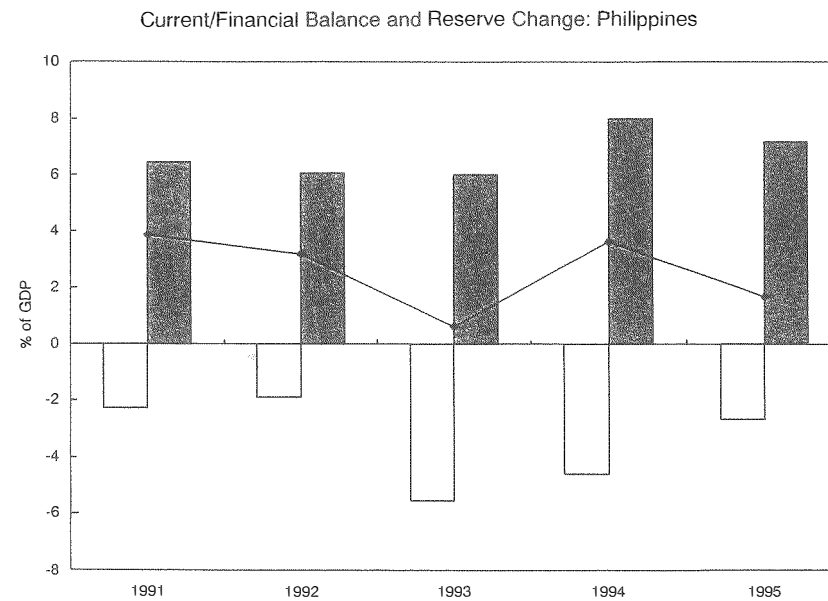
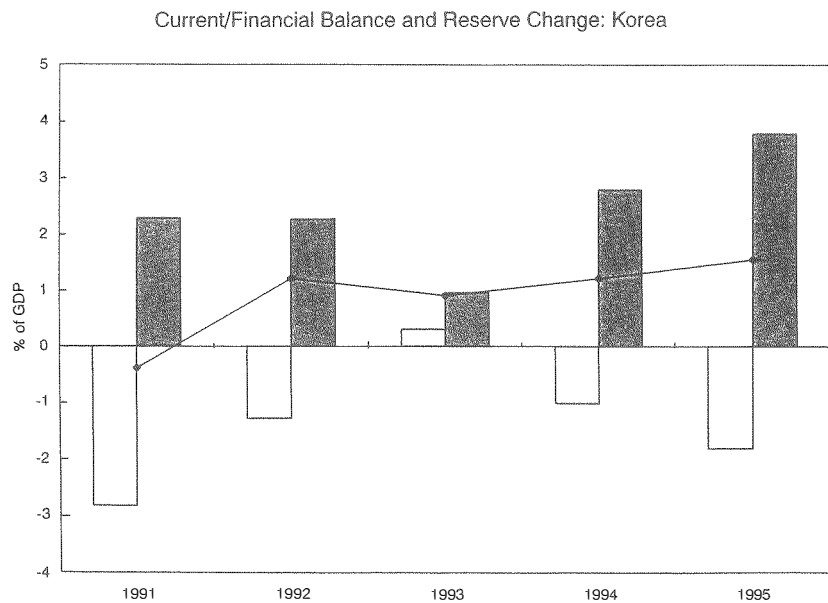
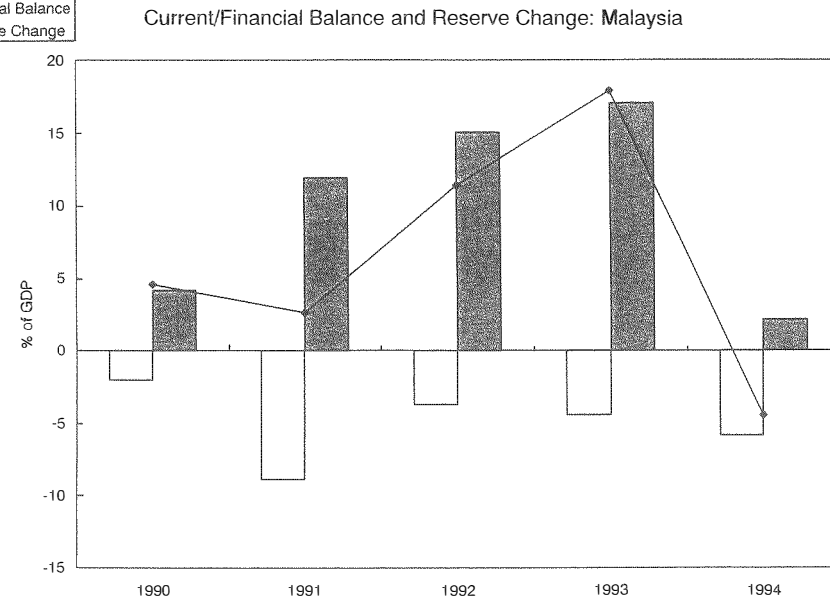
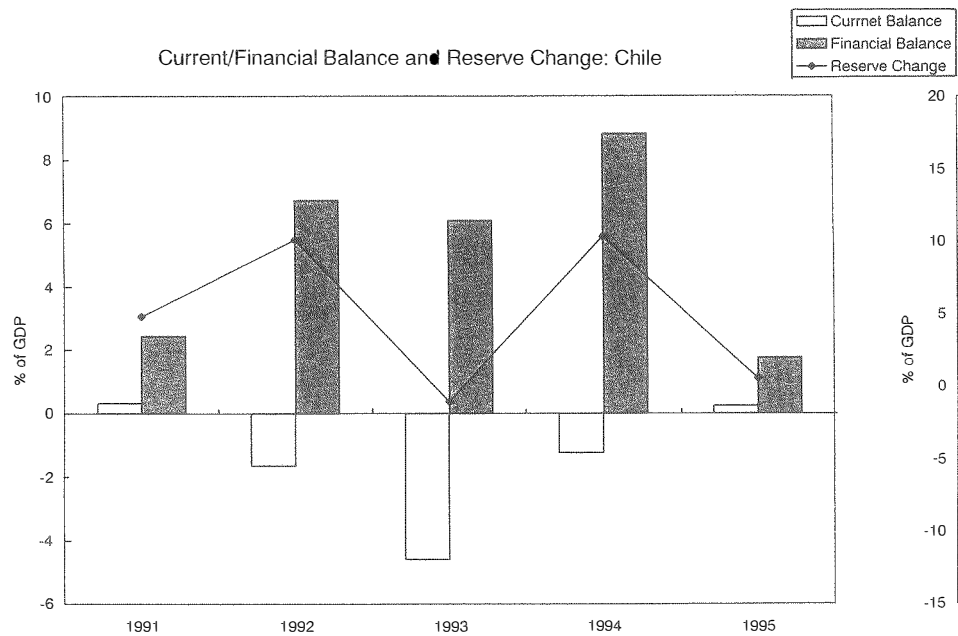
the investment capital, which is structural. Finally, overall economic reforms, specifically financial and capital market liberalization in developing economies, have allured foreign capital and encouraged international risk diversification by institutional investors. The last point is crucially important to note, however, because it turned out to be a double-edged sword.

First of all, while huge capital flows in either securities investment or bank loans can relax constraints on domestic investment finance, they tend to place currency appreciation pressure in the foreign exchange market, as well as an inflationary pressure in the domestic financial market through resulting monetary expansion. Second, under the general trend of financial market deregulation, these capital flows might lead to reckless bank lending and other excessive exposures without full-fledged prudential controls by the monetary authorities, although deregulation is, without doubt, desirable in the long run. Third, as it had turned out, these capital flows may not be reliable sources of long-run investment finance. Once the business cycle in developed economies

changes, it easily changes hands. This type of volatility should be taken into account, because emerging markets are, at most, *marginal* to those international investors vigorously looking for better opportunities in the global arena.

Thus, the booms and busts of private foreign capital inflows into emerging markets in the region in the 1990s have obliged the monetary authorities to face a variety of fundamental policy choices in order to *insulate domestic economies from those external disturbances*. One of the policy choices was how to or how not to adjust exchange rates in order to minimize undesirable side-effects of these flows. Then, sterilized intervention in the foreign exchange market can be viewed as a combination of nominal exchange rate stabilization and monetary control. The latter would use official discount rates, an open market operation, reserve requirements, and even management of public sector savings as instruments. Lastly, controls on capital inflows and/or decontrol of capital outflows would also be utilized for direct manipulation.

Figure 10
CAPITAL INFLOW AND FOREIGN EXCHANGE MARKET INTERVENTION:
CHILE, KOREA, MALAYSIA, AND THE PHILIPPINES, 1990/91-94/95



Optimal policy responses depend on the volatility of the flows and the absorptive capacity of domestic financial systems. The authorities can insulate domestic economies from the external impact by adjusting exchange rates and/or resort to counteracting monetary and fiscal policies with exchange rates untouched. In fact, member economies adopted more or less a combination of policies including exchange rate adjustments or more flexible exchange rates, monetary policies (sterilized intervention in foreign exchange and/or money markets), fiscal restraint, capital controls, and even accelerating trade liberalization (Figure 10).

Most economies (Chile, Colombia, Indonesia, Korea, Malaysia, Mexico, Philippines, Chinese Taipei, and Thailand) conducted sterilized intervention against the monetary impact of the capital inflows (Figure 10) and some (Chile, Colombia, Indonesia, Korea, and Malaysia)

imposed increased reserve requirements on foreign borrowings or other capital control measures. Sterilized intervention has been said to be effective, at least in the short run, to minimize the impact on domestic monetary conditions. Some East Asian economies (Malaysia, Philippines, Singapore, Chinese Taipei, and Thailand) attempted fiscal restraint through the management of public sector savings.

Exchange rate adjustments (revaluation or appreciation) could insulate domestic financial markets from volatile external capital movements, and help promote necessary real adjustments in a less inflationary way. Chile, Colombia, Indonesia, Malaysia, Mexico, and Philippines took this option with various degrees and timings in the 1990s. The cost of more flexible exchange rates is its possible negative impact on trade and investment flows.

Figure 11
REAL EXCHANGE RATE ELASTICITIES OF EXPORTS AND IMPORTS: APEC REGION, 1973-93

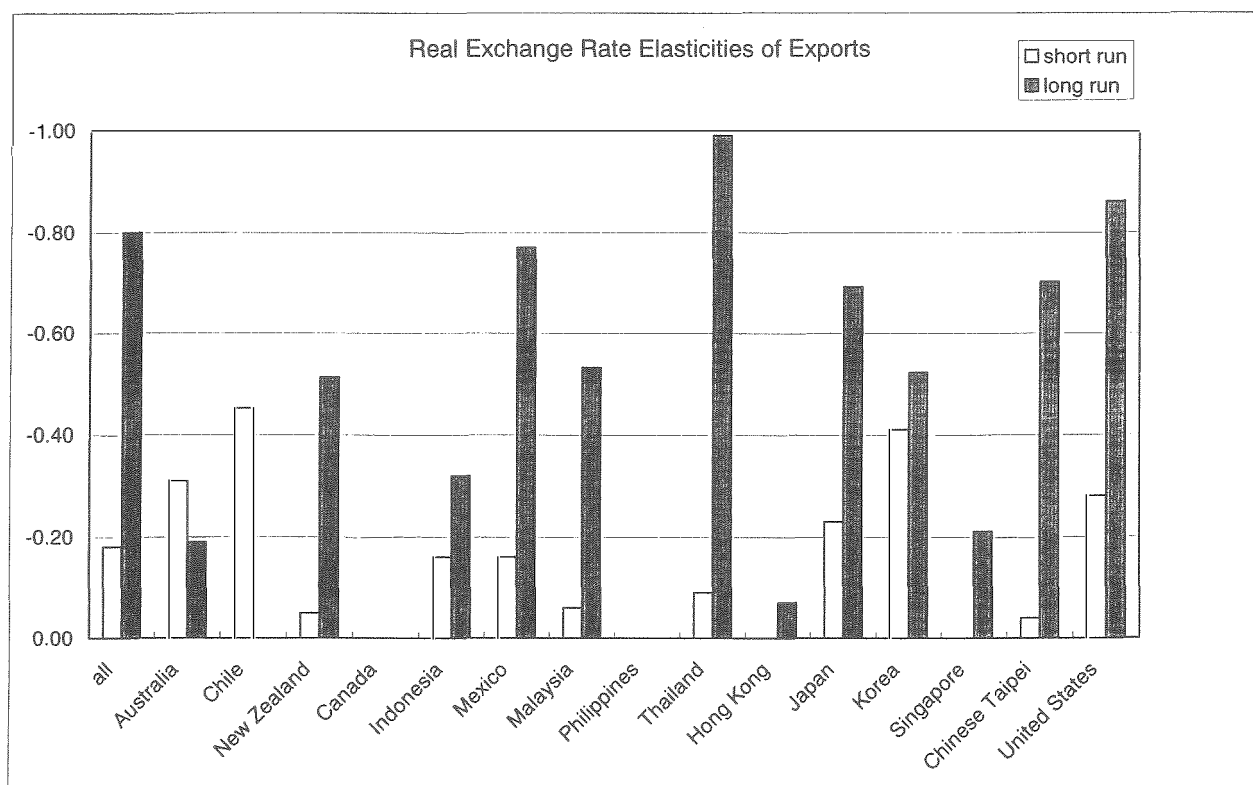
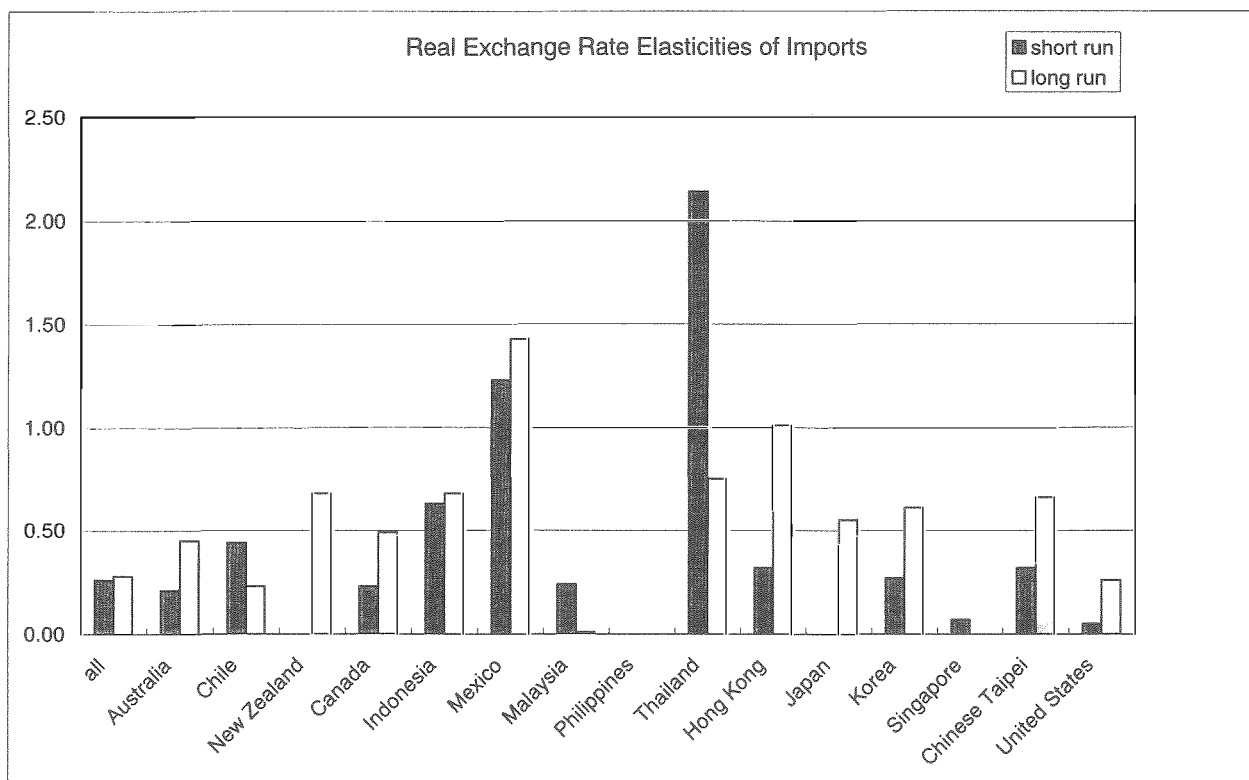


Figure 11 (Continued)
REAL EXCHANGE RATE ELASTICITIES OF EXPORTS AND IMPORTS: APEC REGION, 1973-93



Exchange Rate Changes and Trade and Investment Flows

Exchange rate changes can have significant effects on trade and investment flows. These changes affect relative tradable goods prices or international competitiveness on the one hand, and affect relative factor prices or comparative advantages of production locations on the other. Moreover, these effects are far from symmetric across economies. Just think of the diverse structures of Pacific economies in terms of external trade, openness, and economic size. One could easily imagine how differently real exchange rate fluctuations affect each member economy.

Price Elasticities of Exports and Imports

Estimates of real exchange rate elasticities of exports and imports in APEC member economies are illustrated by Figure 11 (IMF [1995]). The estimated short-run and long-run elasticities of exports for all economies as a panel are both highly significant, with the estimated elasticity rising from -0.18 to -0.80 over time. While the elasticities for individual economies are generally correct in sign, they are sometimes smaller than that for the panel, and rarely significant at conventional statistical levels except for Japan and the United States. In the case of imports, the

estimated exchange rate elasticities for all economies are significant only for the short-run, but with a correct sign in the long-run, while the elasticities for some individual economies are statistically significant and correct in sign (i.e. for Australia, Chile, Hong Kong, Indonesia, Mexico and the United States).

The above results allow the following conjectures. As far as the effects of changes in real effective exchange rates on exports and imports (namely on net exports) are concerned, they would be small and lagged over time. (Actually, the estimated elasticities show that the "Marshall-Lerner" condition does not hold in the short-run.) Put differently, if external adjustment burdens are placed solely on real exchange rates, they might have either a perverse effect or a very large swing in the short run.

In contrast, both exports and imports, thereby net exports, are found to be highly income-elastic or responsive to economic activities particularly in the short run. The estimated income elasticities for all economies as a panel are 1.88 and 1.96 in the short-run and in the long-run, respectively, which are highly significant, which is also the case for most of individual economies. They are illustrated in Figure 12. The Figure also shows an asymmetric feature that manufacturing exporters tend to be more income-elastic in exports and less

income-elastic in imports than primary and intermediate exporters.

FDI and Exchange Rate Changes

It has been often claimed that large swings in real exchange rates cause significant shifts in comparative advantages, thereby generating large-scale production relocations, namely an explosion of foreign direct investment (FDI). Examples include Japanese and Asian NIEs' upsurge of FDI (and "hollowing-out" of manufacturing industries) after the large dollar depreciation following the

Plaza Accord in 1985 (See Figure 13).

It is not that straightforward, however, to detect the effects of real exchange rate changes on FDI flows, at least at a macroeconomic level. For example, IMF [1995] finds that, while both economic growth and real exchange rate depreciation in host economies are estimated to be significant in explaining FDI in the case of a panel of all APEC members, real exchange rate depreciation is significant only in the cases of Chile, Japan, and the Philippines.

Figure 12
INCOME ELASTICITIES OF EXPORTS AND IMPORTS: APEC REGION, 1973-93

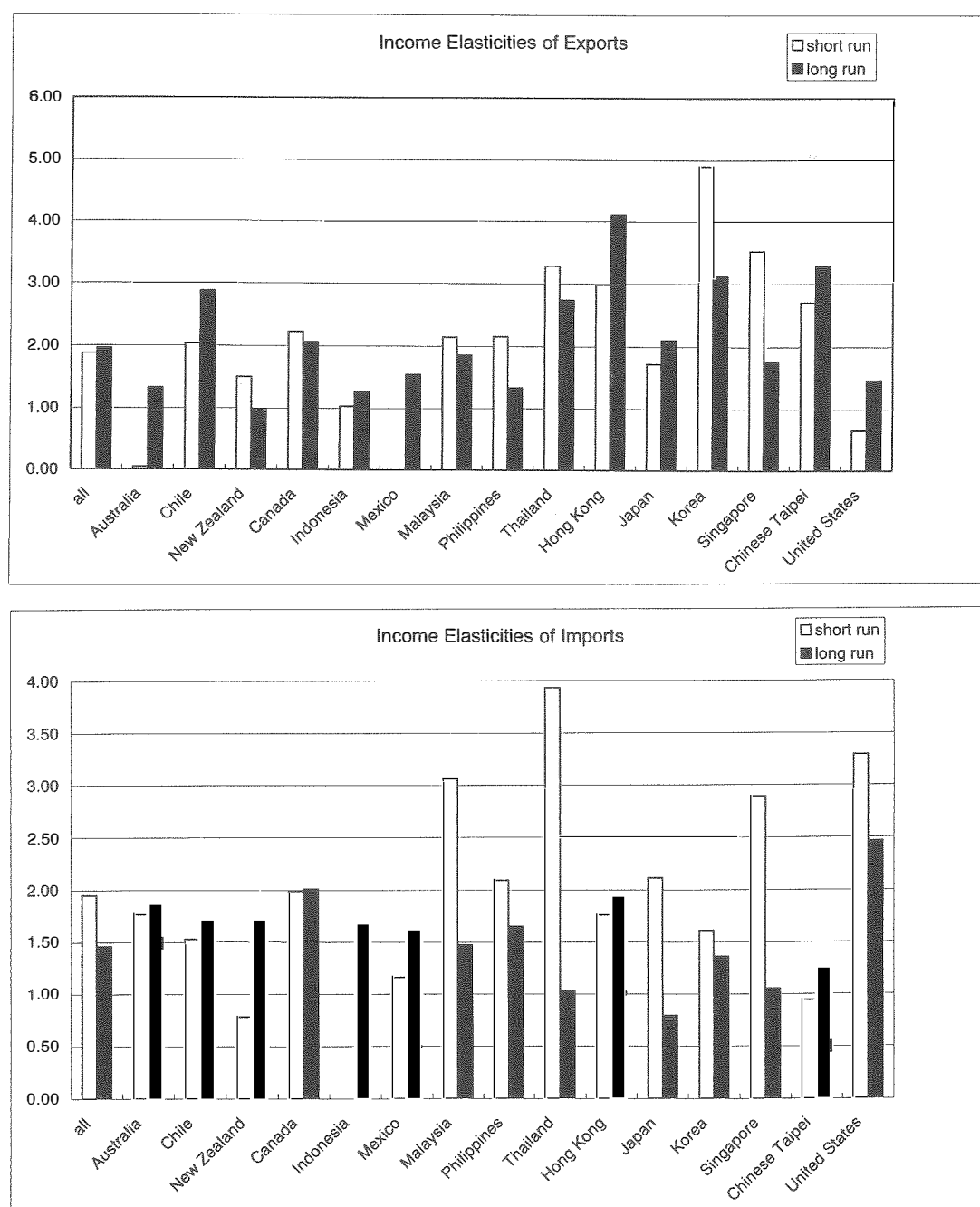
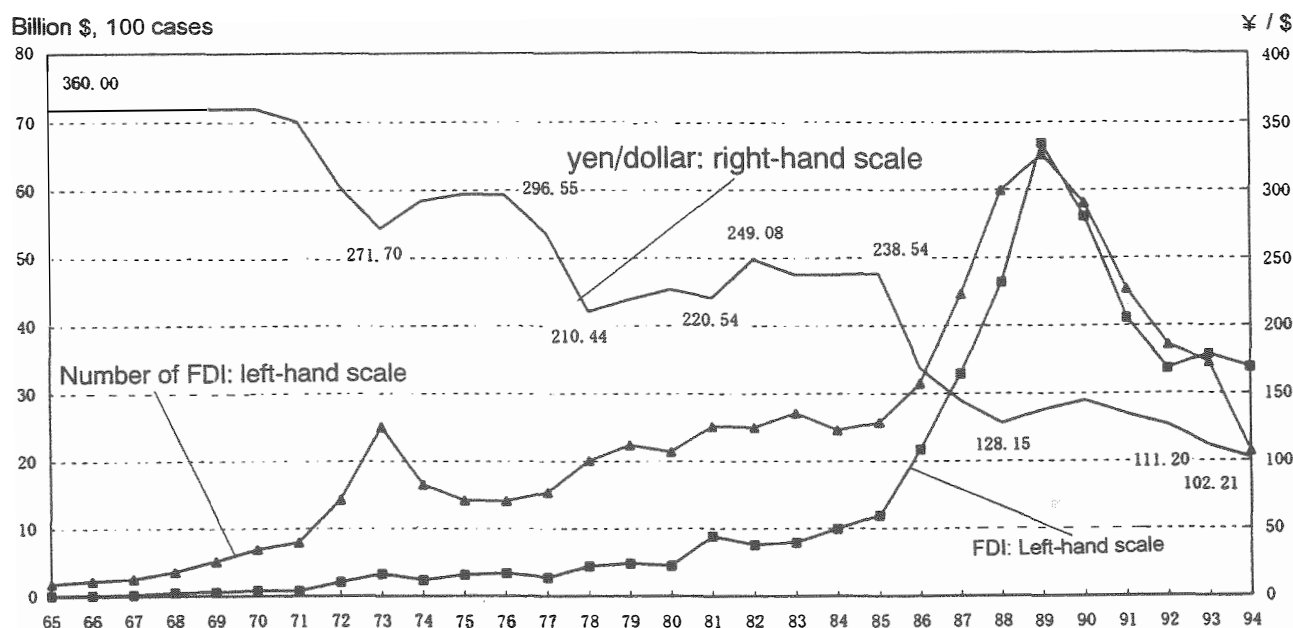


Figure 13
EXCHANGE RATE CHANGES AND FOREIGN DIRECT INVESTMENT: JAPAN, 1965-94



Source: MITI, White Paper on External Trade, 1995.

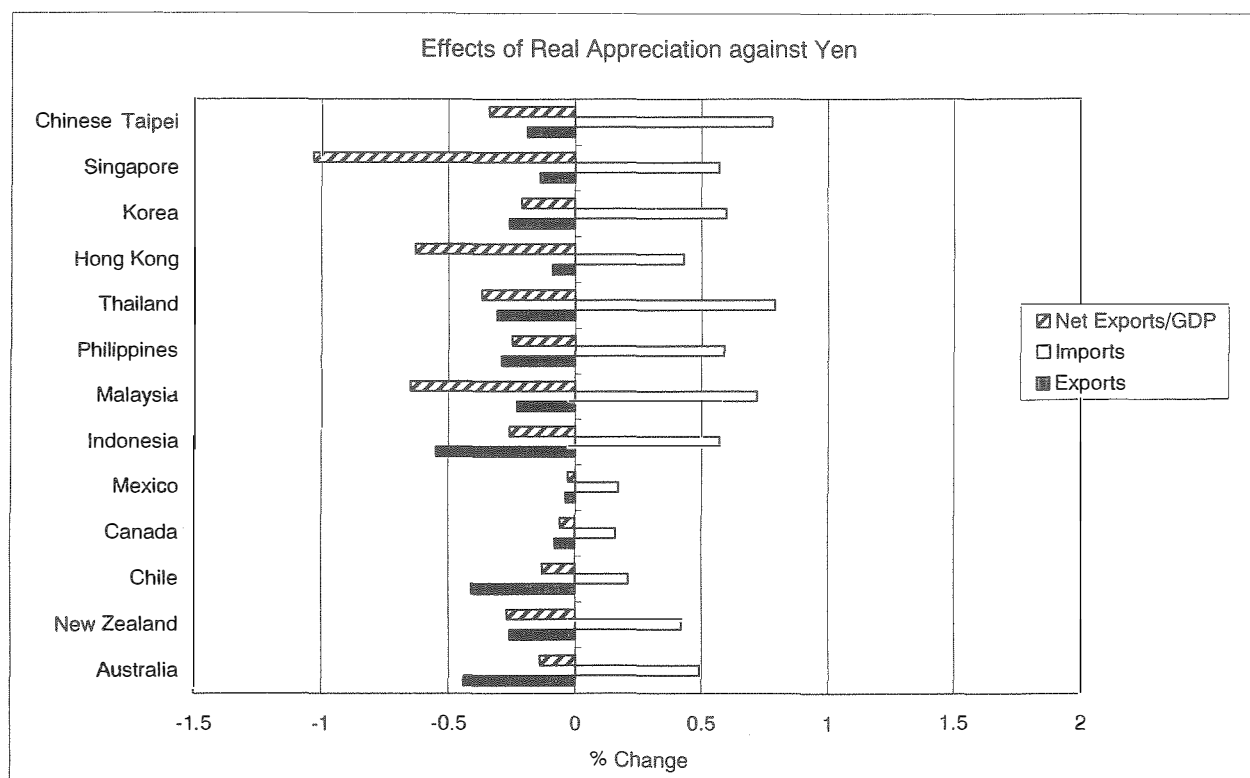
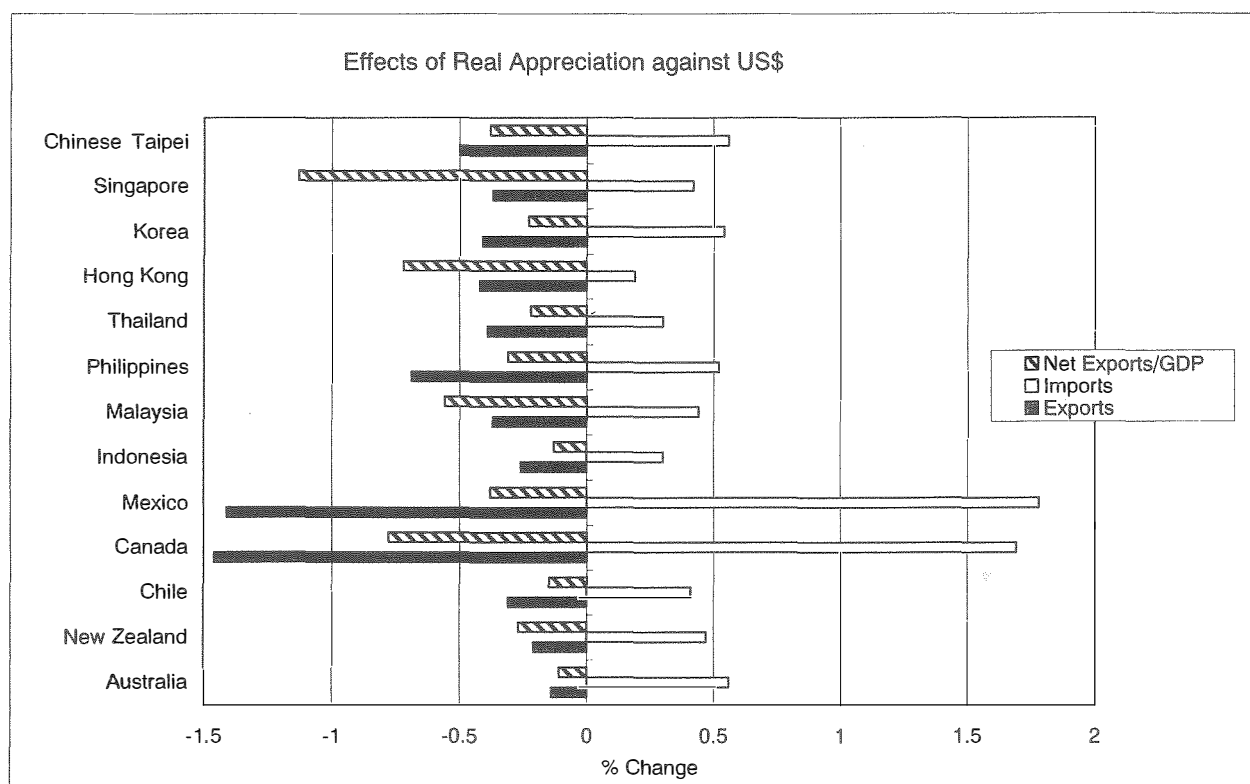
Yen-Dollar Exchange Rate Changes and their Impacts

The yen-dollar exchange rate has shown large medium-run swings since the collapse of the Bretton Woods regime. As was mentioned earlier, it has shown the best example of currency misalignments under the present generalized float system. Since both the United States and Japan have been major trading partners to PECC member economies in the western part of the Pacific region, the yen-dollar exchange rate changes have had inevitably quite an *asymmetric effect* on them.

As of the early 1990s, the total shares of the United States and Japan in total trade volume are either around or more than 40 percent in Asian NIEs and other Asian PECC members, as well as in Australia and New Zealand, where their shares are more or less equal in size. This is in contrast to the other members in the American continent, where the United States has been a dominant partner (except for Chile, where Japan has become the top trading partner in the 1990s). The effects of bilateral exchange rate changes of each currency are estimated in Figure 14.

Although these results are hypothetical, they successfully illustrate the main feature of the asymmetry mentioned above. In the case of Canada and Mexico, the effect of 10 percent real appreciation against the yen on the trade balance is minor (less than 0.1 percent of GDP) to that against the dollar (0.4 – 0.8 percent). In the other economies, however, especially in Asian NIEs and ASEAN economies, when the yen-dollar exchange rate swings to a large extent as it has done so, their real exchange rates could not remain unaffected against either currencies, hence significant impacts on the trade balance. Real appreciation (depreciation) against the dollar (yen), or vice versa, would offset each other's impact to some extent, but net effects could be large. Furthermore, given the structural trade deficit (surplus) with Japan (the United States) in some East Asian economies, there is a good chance for these bilateral trade imbalances to be magnified in the case of yen appreciation against the dollar, which tends to be politicized on the diplomatic arena even without any rational economic reasons.

Figure 14
EFFECTS OF U.S. DOLLAR AND YEN EXCHANGE RATE CHANGES ON NET EXPORTS



CONCLUSIVE REMARKS

We have discussed the interaction between exchange rate arrangements and macroeconomic management in the Pacific region. In developing member economies, more or less managed exchange rate arrangements have been adopted, with some reasons. Exchange rate changes by themselves can be the source of macroeconomic instability. It holds more true for economies with unstable macroeconomic environments either at present or in the recent past, and/or for those under the transition process of overall structural reforms. In fact, attempts to use exchange rates as a nominal anchor, more often than not, turned out to fail in attaining the ultimate goal of price stability. Figure 15 illustrates the positive correlation between volatilities of nominal and real exchange rates in the region over the period of 1986-95, which suggests that managing nominal rates at sustainable levels would be necessary to minimize the volatility of both nominal and real exchange rates.

Recent huge capital inflows to emerging markets (most of them in the Pacific) exposed a double-edged nature. Specifically it revealed its destabilizing character in the context of emerging financial markets. Most of those markets can be characterized as comparatively *narrow and shallow*, and right now in the process of deregulation. Without adequate supervision by monetary authorities, huge inflows of foreign capital have affected the vulnerability of domestic capital markets, particularly that of the banking system. The robustness of the banking system and macroeconomic stability would go hand in hand together. If the former exists, monetary tightening could attain its aim to fend off the side effects of foreign capital inflows, while, if the latter holds, banks would find little difficulty in their risk management. Figure 16 shows the degree of financial deepening or the measure of financial intermediation in the region. It suggests that East Asia tends to be more robust against external disturbances than Latin America. It is only in the comparative sense, though, as it proved not necessarily true. Refer to the financial turmoil in Thailand and Korea in 1997.

Exchange rate changes, particularly real ones, have proved to play a small and lagged role in adjusting macroeconomic imbalances at least in the short run. Generally, setting long-run exchange rate targets is not easy, because we do not know what their equilibrium levels are and how they will proceed not only in the short run, but in the long run. Additional disturbances come from major currencies' realignments. In fact, changes in the yen-dollar exchange rate could have not only significant, but asymmetric effects on the other member economies, especially those in East Asia. Yet, there seems to be no choice but to rely on their macroeconomic policy coordination, which has appeared to be not very successful so far.

Japan and the United States have shown contrasting attitudes toward exchange rate swings in the medium run. The United States benignly neglects and Japan over-reacts. The former has been reluctant to adjust its external imbalance, and the latter paying too much attention to exchange rate stability at the cost of the internal balance. One reason is the difference in policy priorities, i.e. domestic or international. Japan appeared to misinterpret itself as a small open economy (indeed, the opposite). The other is the fact that the U.S. dollar is an international vehicle currency, but the yen is not. Here, however, arises the sustainability issue. Namely, once the U.S. economy is found unaffordable to the present-level over-spending, the fact that the status of the vehicle currency has been eroded (See Figure 17) would reveal.

Under the present non-system, the free float can help more or less insulate each individual economy from external developments, at least in the short run. Short-run insulation, however, does not guarantee long-run sustainability. Particularly, observing that real exchange rate changes have played a lesser role in adjusting external imbalances, we presume that, given the recent trend of increasing interdependence, sustainable growth may not be realized without deliberate efforts for macroeconomic policy coordination in the Pacific region, which must be symmetric this time.

Figure 15
NOMINAL VS. REAL EXCHANGE RATE VOLATILITIES: PACIFIC REGION, 1986-90 AND 1991-95

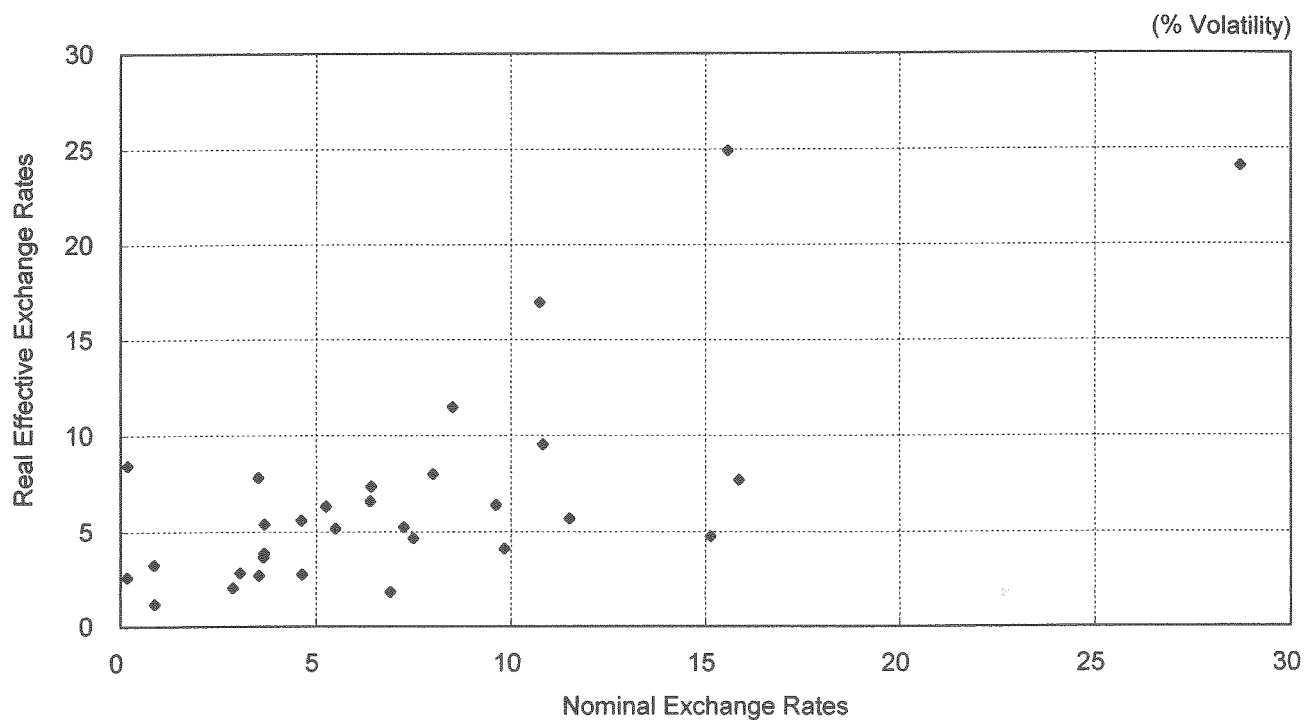


Figure 16
DEGREE OF FINANCIAL DEEPENING: PACIFIC REGION, 1980-95

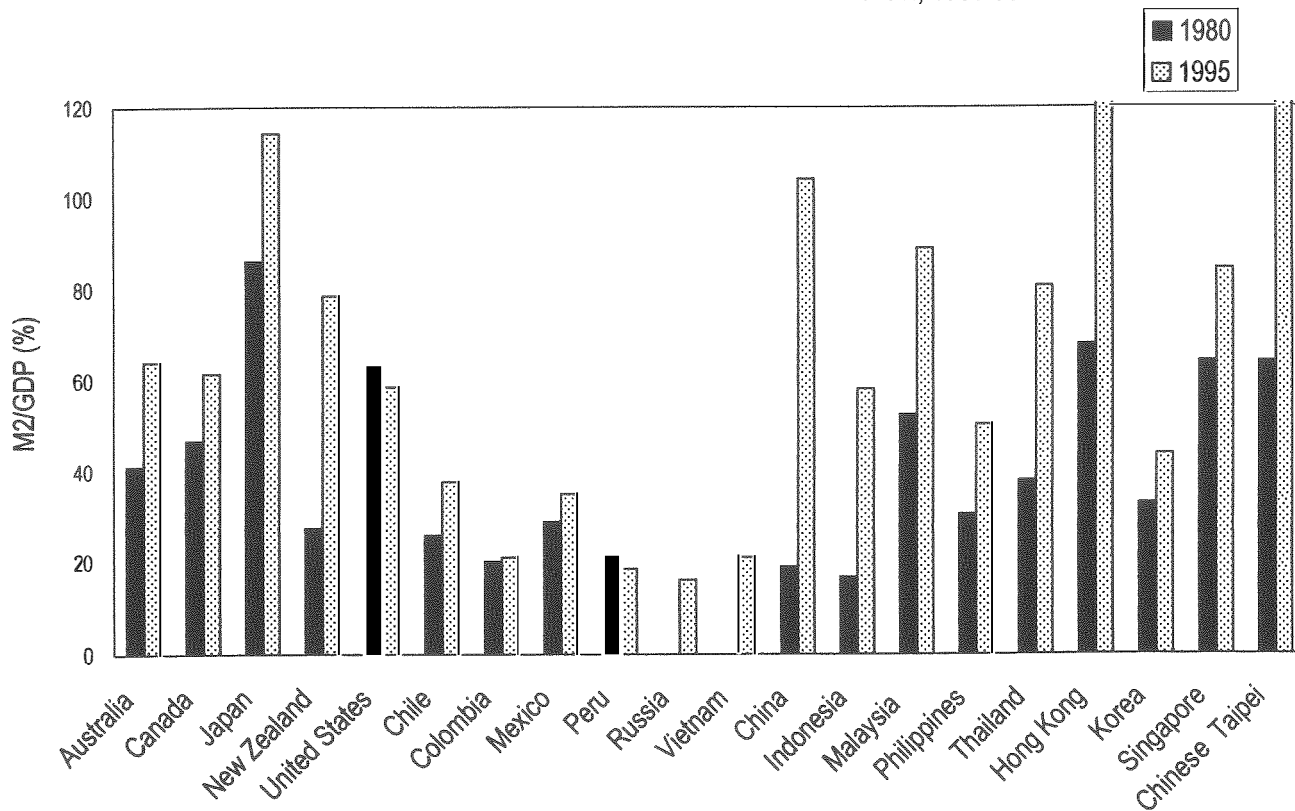
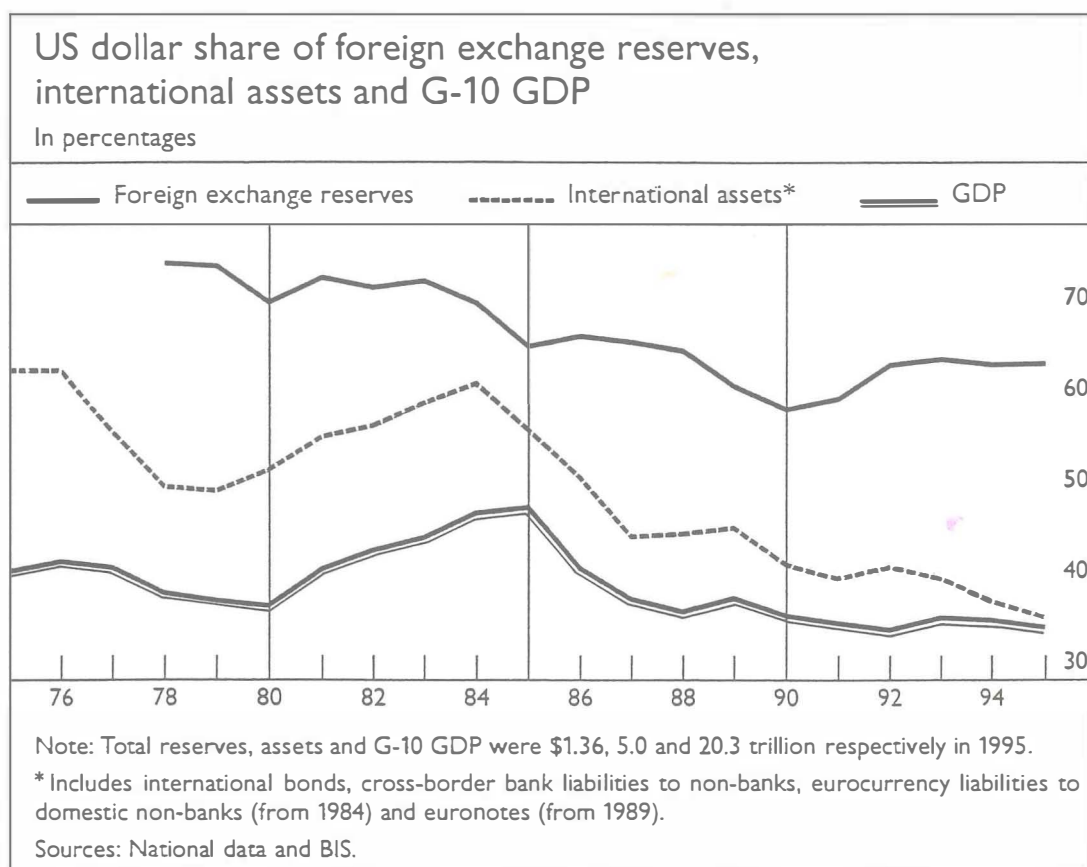


Figure 17
**U.S. DOLLAR SHARE OF FOREIGN EXCHANGE RESERVES,
INTERNATIONAL ASSETS AND G-10 GDP**



REFERENCES

- Asian Development Bank. *Key Indicators of Developing Asian and Pacific Countries*. 1996.
- Bank for International Settlements. *Annual Report 1995/96*. 1996.
- International Monetary Fund. *World Economic Outlook*. October 1995.
- ibid. "Exchange Rate Movements and Their Impacts on Trade and Investment in the APEC Region," *IMF Discussion Paper*. October 1995.
- ibid. *International Financial Statistics*. Various issues.
- Ito, Isard, and Symansky. "Economic Growth and Real Exchange Rate: An Overview of the Balassa-Samuelson Hypothesis," *NBER Working Paper*, No.5979. March 1997.
- Japan Committee for Pacific Economic Outlook. *Capital Flows in the Pacific Region: Past Trends and Future Prospects*. September 1995.

AUSTRALIA



Australia presently has an independently floating exchange rate, though its exchange rate system has changed several times this century. Before the floating of the Australian dollar and the abolition of exchange controls in December 1983, the exchange rate was perceived alternatively as an external constraint or economy-wide policy instrument to be varied by the authorities for balance of payments or inflation control reasons. The float of the dollar and accompanying liberalisation of international financial transactions transformed the Australian financial system from being heavily regulated and segmented into one that was lightly regulated and internationally integrated. Both domestic and international financial transactions were quite tightly controlled in Australia up until the early 1980's. The deregulation and inter-nationalisation of Australia's financial markets proceeded because there was widespread acceptance that efficiency gains could be realised by removing controls that distorted interest rate settings and domestic and international borrowing and lending decisions.

From the early 1980's onwards, the wide-ranging financial deregulation greatly improved access to international funds, at the same time allowing residents to invest abroad. Foreign capital inflows to Australia over this time well exceeded capital outflows from Australia, giving rise to an increase in the stock of Australia's net external liabilities, including a significant foreign debt, as opposed to foreign equity component. Nonetheless, though total external liabilities increased sharply following financial deregulation, domestic asset values

rose to an even greater extent, resulting in a substantially improved national wealth position.

Under a floating exchange rate, current account imbalances, of themselves, arguably become less relevant as an external policy constraint, particularly if understood as the result of international trade in saving, which can improve economic welfare for both borrowing and lending economies under certain conditions. Greater international capital mobility also contributed to Australia's widened current account balance, which has increased from an average level of around 2.25 percent of GDP during the 1960's and 1970's to average around 4.5 percent since the early 1980's.

The Australian authorities are still mindful of the size of Australia's current account deficit and foreign debt level, which remain relatively large by the standards of other industrialised economies. One reason for concern is that an excessively high level of foreign debt may precipitate a sudden outflow of foreign capital. Such an event could cause an unexpectedly high currency depreciation further adversely affecting the confidence of foreign investors, with undesirable consequences for domestic interest rates and domestic economy activity.

Australia's nominal effective exchange rate is the Trade Weighted Index (TWI) which includes the currencies of twenty four countries, accounting for over ninety percent of Australia's trade in goods and services, most of which is now in the Asia-Pacific region. The real, or inflation-adjusted, effective exchange rate reflects two possible sources of changes in overall competitiveness. In practice, in Australia as elsewhere, nominal exchange rates

are far more variable than national price levels, domestic inflation rates or relative labour costs. Hence, sharp swings in Australia's nominal exchange rate usually accounts for most real exchange rate variation. The real exchange rate is also used as a measure of the competitiveness of domestic manufacturing industry in Australia. Since 1980 there have been some major fluctuations in competitiveness, the most notable being a substantial real depreciation in the mid-1980's which subsequently provided a stimulus to manufacturing exports. In fact, exports of high value added manufactures have been growing at an average of sixteen percent a year over the past decade.

The main long run influence on the behaviour of Australia's nominal effective exchange rate has been the economy's relative inflation performance. For instance, since 1980 Australia's relatively higher inflation rate, due ultimately to domestic monetary influences, has been reflected in a significant secular depreciation of the TWI, thus ensuring that over lengthy periods, the real exchange rate tends to return to its long term average value. With a much improved relative inflation performance from the early 1990's however, the nominal exchange rate now exhibits less tendency to depreciate over longer periods, than was the case over the course of the 1970's and 1980's.

In the medium term, the main influence on the real exchange rate is the economy's terms of trade, defined as the ratio of prices received for its exports to prices paid for its imports. The concentration of primary commodities in Australia's exports of goods is largely responsible for the economy experiencing highly variable terms of trade movements, higher for instance than Canada or the United States, though not that different from New Zealand. Merchandise exports are mainly primary and lightly processed agricultural and mineral commodities, accounting for about sixty percent of total exports, whereas imports are mainly manufactures. Exchange rate

appreciations (depreciations) which accompany international commodity price rises (falls) help preserve the domestic currency value of Australia's exports, effectively providing some insulation to domestic producers against world commodity price fluctuations. In the very short term, the Australian dollar is also susceptible to sudden movements of international investment funds, which can be immediately responsive to changing perceptions of macroeconomic fundamentals.

Since the exchange rate now floats, it is not an explicit target of monetary policy. Indeed, a reason for floating the exchange rate in 1983 was to allow the monetary authorities greater control over domestic liquidity conditions. The Reserve Bank of Australia has nonetheless reacted at times whenever the currency has come under intense pressure, either by raising short term interest rates or by intervening directly in the foreign exchange market. Invariably, the central bank's foreign exchange market intervention is sterilised through offsetting monetary operations in the domestic bond market. The regularity of official intervention since the float suggests that the central bank considers sterilised intervention to be effective as a means of influencing short term exchange rate behaviour, even though the scale of its intervention is usually small relative to total turnover in the foreign exchange market. One justification for its continued use is that market reports of official intervention, usually involving the exchange of Australian dollars for United States dollars, provide signals about possible future action using domestic interest rates, thereby affecting market expectations. From end-1983 to mid-1986 official intervention was minimal. It increased during the period from mid-1986 to early 1989 and continued during the recessionary period from end-1991 to end-1993, though since then has again become relatively small, consistent with the practice of other economies in the region which have free floating currencies.

CANADA



Over the past several years, many countries along the Pacific Rim have experienced significant capital inflows. Such capital movements are a response to a number of factors including the sustained implementation of sound macro-economic policies and structural reforms, lower interest rates in industrial countries and portfolio diversification. While such a development has been welcome, particularly for countries that had been capital constrained, large capital inflows have, at times, complicated the conduct of monetary policy. Recent exchange rate crises in Europe and in Mexico have also sharpened the concerns of policymakers regarding the rapid growth of cross-border capital flows. Questions have been raised about the very ability of central banks to pursue independent monetary policies in a global, integrated financial environment.

The Canadian experience in conducting monetary policy may be of particular interest for countries along the Pacific Rim, especially those that are in the process of liberalizing their financial markets. Like many countries in this region, Canada is an open economy, a major exporter of primary products, and has traditionally been an importer of foreign capital. Moreover, as Canada eliminated foreign exchange and interest rate controls several decades ago, its capital markets have become tightly integrated with foreign markets.

Hence, the Bank of Canada has accumulated considerable experience in conducting monetary policy in an open, liberal environment.

As the exchange rate is part of the monetary policy transmission mechanism in an open economy, large capital movements can lead to currency movements and complicate the conduct of monetary policy. Indeed, for some countries that are in the process of removing, or have just removed, foreign exchange and other controls, the ebb and flow of market forces can be disconcerting, and feel like a loss of control. However, for Canada, the record shows that an independent monetary policy is possible even if markets are highly integrated and capital flows are large and mobile. What is required, however, is a flexible exchange rate. This monetary independence is not, however, absolute. A central bank's actions will be circumscribed by market forces. However, it can acquire manoeuvring room if credible macroeconomic policies are consistently pursued. It is particularly important that investors, both foreign and domestic, be assured that the authorities are committed to maintaining the internal purchasing power of the currency. In this regard, Canadian authorities have found that transparent central bank policy objectives and actions have been helpful in anchoring market expectations and minimizing destabilizing capital movements.

CHILE



During the last decade, the major issues faced by the Chilean economy have changed dramatically. A decade ago, just after the external debt crisis, the major challenge was to overcome the huge recession of the early eighties. Today, the Chilean economy is ending its twelfth year of continuous and high growth, unemployment is at low levels and the external constraint problem has disappeared. Among the main keys to Chilean success we can mention, first, the stability in the general economic framework, and second, the implementation of a series of macroeconomic and microeconomic policies that, on the whole, could be called properly oriented, at least in the light of the results achieved. One of these has been the exchange rate policy.

For more than a decade the Central Bank of Chile has implemented its exchange rate policy within the framework of an exchange rate band with hard edges and fully indexed to inflation differentials. It must be pointed out that this exchange rate framework — a central parity rate adjusted daily in accordance with the previous month's inflation minus the relevant foreign inflation rate, within a band of fluctuation — is the framework that has been maintained up to the present time, broadly speaking. Starting with 1984, Chile has applied an exchange rate policy based on a central parity rate aimed at keeping the real exchange rate constant. In contrast with other experiences, the emphasis has been on the real rather than the nominal exchange rate. There have naturally been realignments of the central parity rate in the course of this period, carried out by means of specific devaluations or revaluations of the central parity rate. The

width of the band has been expanded on several occasions, to around 10 percent at the beginning of 1992. Starting with July of the same year, the value of the currency is determined on the basis of a reference basket of currencies composed of the U.S. dollar, the German mark, and the yen.

For the last twelve years, the varying emphasis given to the exchange rate policy framework is due to the different circumstances in the Chilean economy. During the second half of the eighties the goal was a high real exchange rate in order to confront the scarcity of foreign currency, while in the nineties, the objective was to avoid the inevitable appreciation resulting from Chile's renewed access to international capital markets. In this new situation, the objective of the foreign exchange policy became the accommodation of reasonable external savings, necessary to finance part of its domestic investment, but not as high as to represent an accumulation of foreign debt that makes the economy vulnerable to any external shock. The manner to make this objective operational was to establish that, at the medium and long term, the Chilean economy must have deficits in its current account of between 3 percent and 4 percent of GDP. Certainly, in a specific year this deficit may be higher or lower than indicated, but the important thing is to focus on the medium and long term to said ratio. In this context, the equilibrium real exchange rate is the one that tends to produce, as a moderate deficit in the current account.

This objective of having a sustainable intertemporal current account deficit, not only reflects the caution of Chilean economic policy

with relation to foreign accounts, but also means that the current account is an objective per se, and its determination must not be left to capital flows of each moment. Therefore, a strategy of prudence and gradualness has been chosen with respect to the absorption of external resources. Thus, in view of the evidence of a massive arrival of capital, the authorities acted with prudence stopping inflows of a more volatile character and modifying the objective of foreign exchange policy only once security existed that a structural change was occurring in the external conditions of the Chilean economy. This way, it has tended to maintain the foreign exchange system of central parity with fluctuation bands, gradually enlarging the width of the bands, and thereby allowing the real exchange rate to be a variable increasingly determined by the market. However, the conviction that the market, on certain occasions, may move toward an out-of-line exchange rate, has helped establish a foreign exchange scheme with the central parity as a symbol of what is believed to be the parity of equilibrium. To this has been added a delimited margin of flotation and restrictions to the speculative capital inflows.

The export sector's development is proof of the successful exchange rate policy, at least

from this perspective. It should be emphasized that the export sector has continued to show growth much higher than those of the economy as a whole, even during the time of currency appreciation. It can also be said that the goal of attenuating currency appreciation during the period of massive capital inflows has been achieved: the appreciation has been quite less than that of other countries in the region faced with similar capital flows. The strategy followed by the Central Bank through opting for a combination of sterilization, currency appreciation and capital control to compensate the effects of the huge capital inflows to our economy, and in this way, not jeopardize the macroeconomic stability and the effectiveness of the monetary and the exchange rate policies, has allowed Chile to be one of the Latin American countries which has exhibited the smallest real exchange rate appreciation since the end of 1989. In other words, the combination of sterilization operations and the reserve requirement, together with a policy of maintaining the aggregate demand in line with the possibilities of the economy in the medium-term, have allowed that the Chilean real exchange rate to experience not only one of the smallest levels of appreciation, but also one of the lowest levels of volatility in the region.

CHINA



Before 1979, China instituted a highly-centralized foreign exchange regime mainly characterized by: the state monopolized foreign trade; trade receipts and payments were subject to overall state planning; and foreign exchange trading was exclusively handled by Bank of China. During the 1979-1993 period, China launched a series of major reforms in its foreign exchange regime.

Various financial institutions co-exist and compete with Bank of China; a foreign exchange retention system was introduced to let export enterprises retain a given quota of foreign exchange as permitted by the state after settling accounts with the bank; liberty was given to Chinese citizens who could possess foreign exchange and open foreign currency accounts with bank for free deposits and drawings.

As of January 1, 1994, Renminbi dual exchange rates were merged so that a unitary, controlled floating exchange rate based on market supply and demand was set up in China; the banking system for the settlement and sales of foreign exchange was introduced to replace the previous one; Renminbi was made conditionally convertible under current accounts; a unified foreign exchange market was set up with banks as the main trading body, while the central Bank — People's Bank of China — exerts timely interference in the market and regulates supply and demand in light of the needs of macroeconomic control so as to maintain the Renminbi's stability.

The new foreign exchange regime and exchange rate mechanism have turned the Renminbi exchange rate from previously controlled to managed floating one, which

proves that China has stepped up toward an open market economy, participated in the division of international labour to a greater extent, involved itself in the international market. As a result, foreign trade develops in a steady and healthy manner; the amount of foreign capital utilized has increased by a big margin. There has also been a sustained increase in China's foreign exchange reserve, which increased to 99.8 billion dollars by the end of July, 1996.

The Chinese government has committed to fully meet requirements in article 8 of the IMF Agreement by the year 2000, that is Renminbi to be fully convertible under current accounts.

In 1996, reforms are further deepening in China's foreign exchange regime. The People's Bank of China decided: Beginning in 1996 the banking system for the settlement and sales of foreign exchange apply to foreign-funded enterprises, eliminating restrictions on their use of foreign exchange for current accounts; they are permitted to retain foreign exchange earnings and open at any designated bank a settlement account for current account transactions and a special account for capital account transactions. The foreign exchange administration department will determine the ceiling amount on their settlement account according to their capital size and their needs for normal business operations. There are three choices for foreign-funded enterprises to use foreign exchange only against valid commercial documents and certificates. First, they can make payment from their account; second, they can purchase the needed foreign exchange from the designated bank, and the third, they can purchase at the foreign

exchange swap center. At the same time, there are some other reform measures: a higher standard is set for the supply of foreign exchange to individuals for personal matters, the scope of supply is enlarged, and an over supply for purposes other than the limited is also permitted as long as the foreign exchange administration department ascertains their factuality after examination; resident individuals are permitted to remit abroad funds from their foreign exchange savings account and to withdraw cash from their foreign cash savings account for domestic spending or for remittance abroad after authenticity of the required certificates; exchange and remittance restrictions on other non-trade items are also eliminated; the current exchange control laws and regulations have been streamlined and altered accordingly. As a result, China can accomplish the goal of the full convertibility of Renminbi under current accounts by the end of 1996, thus having met, ahead of schedule, the requirements set in article 8 of the IMF Agreement.

Maintaining the Renminbi exchange rate at a

stable level without big-margin fluctuations is one of the targets for China's macroeconomic policies. The central bank can exert interference, more or less, in readjusting the exchange rate level by various policy means, among them, foreign exchange trading policy is the most important one. In April 1994, a unified inter-bank foreign exchange market was established in China. The business turnover for that year amounted to the equivalent of 40.77 billion dollars and to 65.52 billion dollars for 1995. Trading was conducted at the unified market rate on an open, fair and equal basis and under the principle of price-and-time preference.

At present, moderate tight financial and monetary policies have been implemented so that inflation is effectively curbed; a basic balance between total supply and total demand in the economy has been maintained, and the Renminbi exchange rate remains stable, foreign exchange reserve has increased, this has created a good condition for deepening the reform of foreign exchange regime.

COLOMBIA



During the period 1967-1991, Colombia operated a crawling-peg system assisted with strict capital controls in which foreign exchange transactions were severely delimited and centralized and supervised by the Central Bank. Through the 1980's, it turned out to be clear for the authorities that those arrangements, originally designed to handle the recurrent episodes of the 1950's and 60's of foreign exchange rationing and balance of payments crises, were becoming increasingly deficient and troublesome.

Since mid-1991, Colombia has undertaken structural economic reforms known as the "Apertura." These reforms are directed at transforming a semi-open, slow growing and heavily intervened and distorted economy into an open, flexible and dynamic one. Labor markets were made more flexible to reduce the rigidity, instability, uncertainty and informality that characterized, until then, labor relations. The central bank was granted independence to focus on its objective of price stability and the financial system reform, which favored universal institutions to increase competition and reduce inefficiency, eliminated restrictions on foreign investment in this sector and encouraged the privatization of numerous state-owned banks.

With regard to exchange arrangements, quantitative restrictions on the international trade of goods and services were lifted, and the tariff structure was simplified and tariffs were reduced. The central bank was released of scrutinizing and conducting foreign exchange transactions directly with the non-financial private sector. The crawling peg system, not compatible with the new economic

environment, was progressively modified until transformed into a system that permitted more flexibility in foreign exchange transactions and allowed the market play a greater role. Since 1991, Colombia has used two variants of a *crawling* target-zone for the exchange rate, similar to those existing in Chile and Israel.

During the 1967-91 period, the crawling-peg regime in operation had important costs for society. The main cost was the acceleration of inflation and the introduction of an inertial component that has made the reduction of inflation today a very difficult task. Inflation during this period, however, was more stable than before. Also, the capital flow controls that had to be in place for the crawling peg regime to work properly, may have introduced costly distortions to the economy (basically higher real interest rates, and a protected, repressed and inefficient financial system).

The "implicit" and "explicit" target zone systems adopted after 1991 were in response to a greater emphasis placed on reducing inflation. This required monetary independence, which in turn can only be attained if the exchange rate has some degree of flexibility.

After 1991, government expenditure continued to play an important role in explaining RER movements. The same can be said of the credit booms generated by the large capital inflows, that fund substantial increases in the demand for non-tradable goods.

The target zone systems have limited the scope for RER targeting, sometimes demanded by the exporters. In the Colombian case, this has been made possible by the allocation of both monetary and foreign exchange policy to

the independent central bank. This arrangement, however, has generated occasional

conflicts with the government.

HONG KONG



The Hong Kong dollar has been linked to the US dollar since October 1983, with the link rate set at HK\$7.80 to US\$1. Since the adoption of this linked exchange rate system, Hong Kong's monetary policy objective has been clearly prescribed as maintaining exchange rate stability. Over the years, the Hong Kong Monetary Authority has incorporated a series of monetary measures designed to strengthen its capability to conduct money market operations. These include: (1) removal of the interest rate ceiling and floor to allow full flexibility of interest rates in both directions (1987-88); (2) introduction of the Accounting Arrangements to acquire direct control over interbank liquidity (1988); (3) launching of the Exchange Fund Bills and Notes Programme to render the medium for conducting open market operations (1990); (4) introduction of the Liquidity Adjustment Facility which is the Hong Kong version of the discount window (1992); and (5) conclusion of bilateral repurchase agreements with a number of central banks in the region, thereby enhancing further the liquidity of the US dollar assets held by the Exchange Fund (1995-97).

These monetary measures have greatly enhanced the robustness of the system of monetary management in Hong Kong. Credibility of the link is further underpinned by substantial foreign exchange reserves, sound economic fundamentals, and a track record of sound fiscal discipline. Since the early part of 1991, the market exchange rate of the Hong Kong dollar against the US dollar has consistently stayed on the strong side of the link rate.

Adoption of the linked exchange rate system

means that the exchange rate or the interest rate cannot be taken as a discretionary policy variable that can be varied by the Government to influence trade, investment, the level of inflation and the overall performance of the economy. However, as the exchange rates of the US dollar against other major currencies do fluctuate from time to time, exchange rate movements apart from those of a short-term nature in the global financial market will have effects on the Hong Kong economy.

More specifically, exchange rate movements do exert quite a strong influence on Hong Kong's export performance. The elasticity of import demand against exchange rate movements is however rather low, primarily because Hong Kong relies heavily on imports for both production and consumption with often very little possible recourse to local production. There is also quite an apparent link between exchange rate movements and investment in machinery and equipment in the local manufacturing sector. Even on a wider investment front, evidence suggests that the years in which exports grew strongly also registered good growth in investment in machinery and equipment.

Through the years, fluctuations in the exchange rate of the Japanese Yen against the US dollar have proved to be an influential factor affecting Hong Kong's import prices. Some correlation also exists between import prices and consumer prices. But with consumer prices consistently rising faster than import prices, it is evident that the bulk of inflationary pressures in the early 1990s were generated locally rather than imported. As such, the local resource balance, much more than the

exchange rate factor, is the key to addressing the inflation issue in Hong Kong. Indeed, with a relatively more abundant supply of resources against demand in the more recent years, consumer price inflation eased off significantly in the latter part of 1995, and more so in most of 1996.

Given the extremely high degree of openness in Hong Kong, exchange rate stability is imperative to its overall financial and economic stability. In this context, the linked exchange rate system provides a firm anchor which is instrumental for minimising business uncertainty in a rapidly changing external environment. Through the entire history of the link, Hong Kong has had a remarkable track record of exchange rate stability. Over the twelve-year period 1984-95, import prices were generally more stable, with an average annual increase of only 3 percent. By comparison, the increase in import prices in the nine-year period 1975-83 under the floating exchange rate regime was considerably larger, at an annual average of 7 percent. Consumer price inflation, which averaged at 12.5 percent in the

latter part of the pre-link period or 1979-83, was also distinctly higher than the corresponding averages of 6.2 percent during 1984-89, and 9.4 percent during 1990-95, when the linked exchange rate system was in place.

While fine-tuning of aggregate demand using monetary devices is admittedly not possible under the linked exchange rate system, the inherent flexibility of wages and prices and the resilience of the economy, working against the background of a non-interventionist stance and a prudent and sound fiscal budget, do provide the means for speedy and efficient adjustment, and the economy has indeed been able to adjust itself effectively. Through more than twelve years under the link, the Hong Kong economy has weathered many volatilities and still produced satisfactory performance. Evidence clearly shows, therefore, that Hong Kong's choice of its current exchange rate system is appropriate. Indeed, the system receives support from all fronts, and it is beyond any doubt that it will be maintained in the future.

INDONESIA



Along with securing a low and stable inflation rate, Indonesian macroeconomic policies have been geared toward promoting a sustainable level of current accounts, and to maintain a comfortable level of foreign exchange reserves. These are not easy tasks, considering that Indonesia has a free foreign exchange system and an open economy. These three aspects are the main factors for selecting an appropriate exchange rate policy, which becomes even more difficult as there are complex interrelationships between exchange rate management and domestic economic policy.

In the area of foreign exchange management, as part of the trade and exchange liberalization policies, the rupiah was devalued in April 1970 to coincide with the free market rate, followed with exchange rate unification in December 1970. Meanwhile, in order to improve the balance of payment account and to reestablish its international credit standing, Indonesia liberalized all capital account transactions in 1972, reversing the conventional wisdom of accounts reforms sequence, as argued by most economists. The absence of foreign exchange controls also meant that Indonesia could be very vulnerable to any issues of capital flight, and therefore enforce discipline in managing the external accounts, as well as the government budget.

Since then, it has been changing gradually from a 'fixed exchange rate regime' during 1970-1973, to a 'quasi fixed regime' for the period 1973-1982. The oil shock in late 1982 has forced the government to devalue the currency in March 1983, in order to maintain competitiveness and to increase non-oil exports. The rupiah was devalued further in

1986, due to the droppings oil prices. Since then, the policy has been changed from a discrete devaluation to a manage floating system with a continuous steady depreciation of the rupiah against a basket of currencies of major trading partners. This has marked the beginning of exchange rates policy which was mainly targeted at maintaining real competitive effective exchange rates, by allowing the currency to depreciate to reflect the real interest rates differential.

The main factor in setting the official rate has been the inflation differential between Indonesia and its major trading partners. The policy is intended to create stability and certainty, especially for exporters, and to maintain competitiveness of the economy in the face of Indonesia's relatively high inflation. Up to early 1994, Bank Indonesia was following a policy of depreciating the nominal rupiah/dollar middle exchange rate at a rate of approximately 4 percent per year. Together with other structural adjustments, this has resulted in dramatic growth of manufacturing exports that have contributed more than 50 percent of the total export revenue by 1993.

However, the increasing volatility of the monetary aggregates due to the openness of the financial sector, with the increasing activity of the capital and money markets that can immediately invite a huge capital inflow if the interest differential is attractive, has made monetary policy less effective in controlling inflation. In order to reduce the sharp fluctuation of speculative money, starting in 1994, Bank Indonesia has been slowly widening the intervention band around the middle rate. In the beginning, the Bank

widened the exchange rate band from 10 rupiah/dollar to 20 rupiah/dollar, or approximately from 0.05 percent to 1 percent. Since then, the intervention band has been widened five times, and now stands at Rp. 192 or approximately 8 percent around the middle rate. Widening the intervention band has served two purposes. First, it gives the market a greater role in determining the exchange rate, and thus creates a more robust set of institutions dealing in foreign exchange. Second, it enlarges the risks that currency investors face if they speculate on the rupiah. This should limit, to a certain degree, speculative forces in the rupiah market.

While the floating exchange rate allows the exchange rate to lose touch with the fundamentals, and thus becoming misaligned; the crawling band that is now adopted will allow monetary policy to serve both the domestic objective of maintaining price stability, as well as the external objective of improving competitiveness. In addition, as the greatest threat of instability is posed by more volatile short-term inflows, Indonesia has also simultaneously adopted overall macroeconomic and structural policies to encourage public savings, foreign direct investment and other long-term investment flows. For example, the government budget surplus created has been utilized to prepay the high interest on foreign

debt, to the amount of more than \$2 billion from 1994 to 1996, which has helped reduce the burden on monetary policy, and has addressed the challenge posed by capital inflows. A healthier banking system and a more active capital market are other improvements of prudent monetary and fiscal policies. As a result, the Indonesian economy has been growing by 6.7 percent annually during the last decade, and for the last four years. The inflation rate was on a declining trend, and has always been under 10 percent for the last decade, with a manageable current account deficit between 2.2 percent to 4 percent of GDP over the last five years, while the saving rate has reached a level of 32 percent of GDP by 1995.

Summarizing, Indonesia has gone through several different models of exchange rate policy, adjusting to the existing circumstances at the time, and taking into account the pace of structural and economic deregulation implemented. As the overall economy is evolving and liberalization has spread to almost all economic sectors, the crawling intervention band is considered the most appropriate exchange rate policy for Indonesia. It has given the government a tool to prevent short-term volatility of exchange rate, while allowing to address its stability concerns in the short term, as well as the long-term.

JAPAN



Since 1973, we have witnessed how exchange rates easily move out of line with economic fundamentals. In fact, one of the main objectives of international policy coordination is to decrease the frequency and size of exchange rate misalignments among major currencies including the Japanese yen. It is generally not easy, however, to identify misalignments. Before doing so, we must have some idea about equilibrium levels of exchange rates.

As far as medium-term and long-term equilibrium real exchange rates are concerned, however, we may be able to rely on those exchange rate determination models which take account of goods, as well as assets arbitrage relationships. PPP signifies the former and the asset market approach the latter. According to these models, while these fundamental relationships suggest medium-term real appreciation of the yen against the U.S. dollar, we have had persistent real exchange rate misalignments since 1980, namely, undervaluation during the first half of the 1980s, and overvaluation during the second half of the 1980s.

These exchange rate changes have both macroeconomic and microeconomic implications. For the macroeconomic aspect, the Japanese experience in the latter half of the 1980s shows some lessons to be learned on the interaction between exchange rate changes and macroeconomic management. The Plaza Accord in 1985 realized a sharp nominal as well as real appreciation of the yen in line with the international policy coordination. The bubble economy during the period resulted from a problematic policy mix of tight fiscal

policy and expansionary monetary policy with some reasons. Japan lost discretion in its fiscal policy because of the fiscal consolidation to regain medium-term fiscal balance on the one hand, and resorted only to monetary policy in offsetting the recessionary effects of yen appreciation on the other hand. This policy mix, however, ended up with unprecedented asset price inflation, which eventually led to serious asset price deflation from the 1990s to the present.

For the microeconomic aspect, long-term real exchange rate changes have had significant impacts on both trade and investment flows in the case of Japan. Yen appreciation after the Plaza Accord was obviously a big push to Japanese FDI in the Pacific region. With some time lags, increasingly globalized production and other business networks of Japanese corporations have brought about significant changes in the structure of Japanese exports, as well as imports. The shift of comparative advantages has been accelerated toward more technology-intensive products on the export side, and manufactured products have become major items on the import side. As a consequence, exports have become less price elastic and less income elastic, and imports more income elastic.

These impacts on trade and investment, naturally, have not been confined to Japan, but to its partner economies in the region. Particularly because these economies have often had asymmetric bilateral trade relationships with the U.S. and Japan (i.e. net exporters to the U.S. and net importers from Japan), changes in yen-dollar real exchange rates have generated both strong short-term

macroeconomic and long-term microeconomic outcomes.

In the late 1980s, for example, one may find a competitive relationship between Asian NIEs and Japan in third-country markets, with some complementary ones between some ASEAN economies and Japan. Thus, yen appreciation against the dollar would favor NIEs and disfavor ASEAN in the short run, vice versa for yen depreciation. Meanwhile, the increasing intra-regional interdependence through investment flows, partly due to real exchange rate changes, has produced both wide and deep changes in industrial structures in these economies, which in turn would change the above trade relationships in the medium run.

For the foreseeable future, it seems we have to live with the present international currency regime or the non-system. Then how can we improve our macroeconomic management facing persistent real exchange rate fluctuations? We suggest Japan to do it in two ways, of course not without difficulty.

First, Japan needs to change policy-management rules for both fiscal and monetary policies. We have learned that, as far as the Japanese yen is not an international vehicle currency like the U.S. dollar, external equilibrium (e.g. exchange rate targeting) should not supersede internal equilibrium (e.g. asset price inflation control) especially under the freely floating exchange rate regime. In order not to impose too much a burden on monetary policy, both the restructuring of fiscal policy and the independence of monetary policy would be indispensable.

Under the present regime, too much emphasis has been placed on the fiscal balance, while fiscal expenditure has become inflexible without explicit priority schemes. As for monetary policy, the authorities should be completely separated from fiscal considerations, and, also, monetary policy should not be constrained by non-performing assets resulted from the bubble burst. These stock adjustments would be better separated from monetary macro-management.

Second, we should play a more active role in enhancing the stability of the international currency regime by opening up our domestic capital market and/or by internationalizing the yen. For their macroeconomic stability, those economies which have become closely interdependent on Japan and the U.S. through trade, investment and financial flows should minimize exchange rate risks against re- and mis-alignments of the yen-dollar exchange rate by increasing the weight of the yen in their currency baskets, as well as by adopting more flexible exchange rate management. Japan could help promote this process by deregulating/opening up its short-term as well as long-term financial markets and increasing the liquidity of yen-denominated financial assets. This is not to build a Yen Bloc. Under the present virtually dollar-standard non-system, the U.S. has little incentive to put first priority on its external balance rather than on its internal one. Thus, it would be safer to have alternative vehicle currencies to make room for risk hedging and risk diversification.

KOREA



Korea began to terminate some regulatory policies in the 1980s, and sped up the liberalization process in the 1990s. One of the most important reforms during this period was the introduction of the "Market Average Exchange Rate System" in 1990 that replaced the discretionary "Multiple Currency Basket System" of the 1980s. Compared to the previous system of managed float, the new one is a great advancement toward a free market, in that the exchange rates are basically determined through demands for and supplies of foreign currencies in exchange markets. Another important reform in the 1990s regarding external transactions is the liberalization of external capital markets. The anticipated capital inflow is expected to appreciate the Korean won, which will affect the price competitiveness of Korean products, and eventually the whole economy.

Data analyses clearly establish the impact of the exchange rate, particularly the REER (Real Effective Exchange Rate), on current account fluctuations with time lags. The most prominent example was the huge current account surplus of up to 8 percent of GDP during the 1987-1988 period, which was led by the depreciation of the REER up to 25 percent one year earlier. In terms of the explanatory power for the fluctuations in the current account, the CPI-based REER, with variable weights on trading partners, appears to be better than PPI-based ones with fixed weights.

Another important finding is that the REER has been more stable in the 1990s than in the 1980s, which has certainly helped maintain the stability of the current account movements well as and the general macro-economic

performances in the 1990s. The last empirical finding is that the REER tends to revert to the mean level in the 1990s, a tendency which does not appear as strong in the 1980s. Based on all of these findings, a tentative conclusion is that the new exchange rate system properly reflects market forces.

Yet, recent capital flows into Korea appear to have over-evaluated Korea's exchange rate compared to the level that would lead the current account balance. With capital markets being liberalized, the appreciation of the exchange rate and the current account deficit are natural results of high interest rates in the Korean economy. Also, the current size of current account deficits (around 3 percent of GDP) seems to be sustainable, considering the potential growth rate and the long-run trend of interest rates in Korea. As the Korean economy accumulates physical capital in the long-run, both marginal returns to capital and (real) interest rates will gradually decline, which will lessen appreciation pressures on the exchange rate and decrease the current account deficit.

Employing a macro-model with this rationale, simulation analyses were performed to see how the Korean economy would evolve over time under different macro-policy schemes, including the speed of capital market liberalization. One of the simulation results shows that the current account deficit will be around 2 to 4 percent of GDP, depending upon the speed of the capital market liberalization process. In the extreme case where capital markets are opened in a big-bang style, however, the REER would appreciate more than 12 percent and the current account deficit

would reach 5 percent of GDP during the first couple years.

With the limitations and reservations of the analyses comes some policy recommendations. First, conservative monetary policies should be maintained. In particular, stubborn attempts to lower domestic interest rates by expansionary monetary policies would produce hyperinflation. Second, a sound fiscal stance should be maintained. Fiscal surpluses will

help increase domestic savings and thus keep the current account from running deficits to an unmanageable degree. Third, flexibility of the exchange rate should be guaranteed to absorb shocks from abroad. An important implication of the flexible exchange rate adjustment is that current account deficits, to an extent, should be allowed; policy attempts to reduce current account deficits by depreciating the exchange rate would likely fail in the long-run.

MALAYSIA



The Malaysian currency called the "Ringgit" was first issued on June 12, 1967, ten years after Malaysia gained independence, and eight years after the establishment of the Central Bank, Bank Negara Malaysia. For reasons of history and by virtue of its declared par value of 0.290299 grammes of fine gold, the Ringgit had the same par value and was completely interchangeable with the Singapore dollar, the Brunei dollar and the Malayan dollar. In addition to a fixed exchange value of 2s.4d, the Ringgit had a parity of RM3.06 to the US dollar. Following the collapse of the Bretton Woods system of fixed exchange rates in August 1971, the Ringgit was floated on June 21, 1973, initially as a managed float pegged to the US dollar which was the intervention currency.

On September 27, 1975, the Ringgit was pegged for greater stability to a currency composite comprising the currencies of Malaysia's major trading partners, and this new determination of the Ringgit exchange value provides the basis for Central Bank intervention to maintain "orderly market trading conditions" for the Ringgit. Between 1980 and 1995, the exchange value of the Ringgit has shown a cumulative decline of 30 percent as measured by the Bank Negara Malaysia currency composite index; a cumulative decline of 77 percent against the Singapore dollar, a decline of 170 percent against the Yen and a decline of 50 percent against the US dollar/Yen rate.

Consequently, Malaysia's international competitiveness, as measured by the manufacturing unit labour cost in terms of the real effective exchange rate, was considerably enhanced, particularly after 1985 following the

Plaza Accord. The competitive exchange rate of the Ringgit has clearly played an important contributory role in Malaysia's strong economic performance. Bank Negara has officially reiterated that exchange rate policy was never used to boost Malaysian export competitiveness, nor to help resolve the nagging problem of a substantial deficit in the current account in the balance of payments. In the short-term, a major determinant for the Ringgit exchange rate seems to be the interest-rate differentials between the 3-month KLIBOR in Ringgit deposits and the 3-month US dollar deposit rate overseas. Thus, any sudden shift in US monetary policy regarding short-term interest rates could influence the short-term outlook for the Ringgit. Over the longer-term, the general trend line of the Ringgit seems to follow the US dollar/Yen rate.

With the termination of the exchange rate as the monetary anchor in 1975, the main focus of monetary policy is to achieve domestic price stability by curbing excess demand and by influencing the growth of monetary aggregates, in particular M3. The role of monetary policy is to work in concert with fiscal policy to achieve the macroeconomic targets of strong growth in the 7-8 percent range, domestic inflation of preferably less than 4 percent with zero inflation as the ultimate target, and external balance in the balance of payments current account. The search for as well as finding common agreement on an equilibrium exchange rate for the Ringgit remains statistically difficult because of the difficulty in achieving both internal and external balance in a world of change. While exchange rate management may be described as "leaning

against the wind," Bank Negara has indicated that "a correct Ringgit value should reflect price stability with no abnormal capital outflows."

Experience in monetary management in periods of currency turmoil has shown that an eclectic approach to monetary management is most pragmatic given the necessity for trade-offs — the inherent conflicts between: (1) promoting competitiveness with a lower Ringgit or capping imported inflation; (2) maintaining a stable Ringgit and surrender the option to reduce interest rates to stimulate growth; (3) opting for a strongly appreciating Ringgit with higher interest rates and triggering a recession; and (4) shifting to a regime of low interest rates and inducing capital outflow. The 1991-1995 period saw an unprecedented massive inflow of speculative funds totaling US\$252 billion along

with a surge in foreign bank funds. Bank Negara Malaysia introduced a package of innovative monetary and administrative measures in support of traditional open market operations to help mop up the excess liquidity and to discourage the capital inflows. The end result shows a net inflow of only US\$17 billion.

Malaysia remains committed to maintaining a liberal policy on capital flows consistent with the longer-term objective of transforming Kuala Lumpur into a regional financial centre having the capability to mobilise funds for development. Between 1986 and 1995, Malaysia has benefited as a major recipient of foreign direct investment with FDI approvals of US\$34 billion and an estimated implemented FDI of about US\$24 billion.

MEXICO



After more than twenty years with a fixed exchange rate, on September 1, 1976, the Mexican peso was devalued. In the period from 1976 to 1996, Mexico has gone from a fixed exchange rate regime to a freely floating exchange rate. In the interim, Mexico adopted a comprehensive exchange control, a crawling peg, and an exchange rate band. In addition, the exchange rate was also used as a nominal anchor in the system.

Following the 1976 devaluation, a "semi-fixed" exchange rate system was initially put in place. The abundance of resources from abroad and the oil revenues allowed Mexico to manage such a regime virtually as a fixed exchange regime. However, the rise in international interest rates, the collapse of oil prices, and the recession in the United States in conjunction with domestic fiscal imbalances and capital outflows, brought the cyclical expansion based on oil exports and foreign borrowing to a sharp halt in 1982. The combination of these elements produced a reduction in the supply of foreign currency and an increase in its demand, and induced speculation. Thus, in order to face speculative pressures in the exchange market, the Bank of Mexico announced in February 1982 its temporary exit from the foreign exchange market, which led to a depreciation of around 39 percent.

In February 1982, a policy of daily depreciation of the peso was put in place. Nevertheless, this policy was not effective in curtailing capital outflows and, by the beginning of August, a new system was adopted. It introduced two different exchange rates between the peso and the US dollar, one

controlled and another freely determined. The rationale was that the controlled exchange rate would be used for required imports of intermediate and capital goods and, thus, it would reduce the inflationary impact of exchange rate depreciation on costs. The free exchange rate would be applied to the rest of the exchange transactions, and would be determined by the supply and demand of U.S. currency.

Under the dual system, between 1985 and 1987, the exchange policy in Mexico sought in general a substantial depreciation of the exchange rate, in order to face the adverse evolution of the terms of trade and to boost the competitiveness of domestic producers. While this policy helped to cope with balance of payments problems, it gave rise to strong inflationary pressures. Thus, by 1987 the acute external sector crisis had been replaced by spiraling inflation, which reached an annual rate of 180 percent in January 1988. With this rate being the highest in modern Mexican economic history, it became clear that the control of inflation had to become the first priority.

In order to reduce inflation at the lowest possible cost to economic growth, in December 1987, the authorities implemented a stabilization program known as the Economic Solidarity Pact (PSE). Fixing the exchange rate to serve as a nominal anchor for prices was a key element of the PSE. Indeed, the stabilization program helped to bring down inflation from 159 percent in 1987, to 52 percent in 1988, to 12 percent in 1992 and to 7 percent in 1994.

As the free and the controlled exchange

rates converged and were virtually unified, the maintenance of a dual exchange rate regime (which had been in force since 1982) eventually became inoperative. Therefore, with the object of eliminating administrative obstacles to exporters and in-bond firms, controls were totally abolished in November 1991. Additionally, on that date and since, the inflation differentials between Mexico and its main trading partner, the United States, were still significant, it was necessary to establish an exchange rate band with the limits moving according to a rule. The selling rate was depreciated daily while the buying rate remained fixed, thus implying a widening band.

In December 21, 1994, the band system was abandoned due to the magnitude and suddenness of the capital outflows. Consequently, on December 22, a floating exchange rate system was adopted. In the aftermath of the devaluation, the strict monetary policy followed by the central bank, the tight fiscal policy of the Mexican authorities, and the support of an international

financial package, have contributed to stabilize the economy and to reduce the volatility of the peso.

In a nutshell, during the period 1976-1996, the exchange rate regime has been adapted to the changing circumstances surrounding the Mexican economy. Both the 1976 and the 1982 exchange rate crises were associated with severe fiscal imbalances, rising inflation and growing deficits in the external accounts. The recent exchange rate crisis developed under a different setting, in an open economy integrated to world capital markets.

The Mexican experience highlights that at different times, under different circumstances, and with different constraints, the optimal exchange rate regime may vary. The task for the monetary authority is to adopt the exchange rate regime that is the most supportive of the macroeconomic objectives of growth, full employment and price stability. Nevertheless, it is clear that for any exchange rate regime to function adequately, sound economic fundamentals must be in place.

NEW ZEALAND



New Zealand is a small open economy which experienced dramatic policy reform during the 1980s. Until 1984, the economy was highly regulated and macroeconomic policy was conducted in an often ad hoc fashion. Prior to liberalisation, exchange rate policy varied, but the New Zealand dollar was typically fixed relative to a basket of trading partner currencies.

In line with other liberalisation policies, the New Zealand dollar was floated in 1985. Since that time, the combination of New Zealand's small size, its openness to international trade,

and the liberalisation of its financial markets has resulted in the exchange rate playing a key role in macroeconomic policy. In particular, New Zealand's monetary policy regime (focused solely on price stability) has effectively relied on the exchange rate as its primary instrument for controlling inflation. This has led to a number of concerns about the extent to which monetary policy has impacted on the tradable sector, at a time when most inflationary pressure has resided in the non-tradable sector.

PERU



Since August 1990, Peru has applied a comprehensive economic program aimed at reducing inflation and creating the basis for sustainable growth. This program includes an economic policy characterized by control of monetary aggregates, fiscal austerity, and the introduction of structural reforms intended to restore to the market to its role in resource allocation.

The implementation of a stabilization policy based on monetary aggregates, instead of the exchange rate, was adopted in the context of a negative level of international reserves, substantial distortion in relative prices, and a lack of credibility after several attempts to stabilize the economy between 1988 and 1990. This control of monetary aggregates has continued after the launching of the stabilization program, due to the advantages it offers in the context of free capital mobility. The flexible exchange rate regime has an insulating and mitigating effect against external shocks, and allows a gradual adjustment in the exchange rate in case of changes in the external economic trends in capital markets.

Thus, the nominal exchange rate is determined by market forces. There is no exchange rate objective in the monetary policy.

Control of monetary aggregates implies a free exchange rate, with interventions by the Central Bank only in order to smooth out fluctuations, and according to non-inflationary growth of the money base. Between 1990 and 1995, the domestic currency has shown gradual depreciation without abrupt variations. Nominal variations of the monthly exchange rate have decreased from a range between -1 and 7 percent in 1992, to between 0.4 and 1.7 percent in 1996.

The real exchange rate — estimated under the purchasing power parity (PPP) approach — has reduced about 20 percent, with respect to the level observed in August 1990. However, evolution of the real exchange rate cannot be seen in isolation from recent changes in the Peruvian economy. The reduction of the real exchange rate index does not necessarily imply an overvaluation of the domestic currency. Structural reforms (such as the deregulation of capital flows, the promotion of foreign investment, and the reform of trade and privatization processes) have increased the overall efficiency of the economy, and have attracted long-term capital flows, reducing the equilibrium exchange rate.

PHILIPPINES



The Philippine foreign exchange rate (FOREX), in both nominal and real terms, has fluctuated widely since 1980. Wide fluctuation is seen especially in the mid-1980s and early 1990s. But the general trend of the nominal exchange rate is that of depreciation. In fact, the nominal FOREX depreciated 27 percent per year in the last 15 years. In real terms, however, the movement is different. Although there had been years when the real FOREX depreciated, its general direction is that of an appreciation. Notable real FOREX appreciation took place in 1989, 1992, 1994 and 1995. As a result of the successive real appreciation, its level is below the 1980 level.

The balance of trade (BOT) deficit was the highest in the last two year when the FOREX appreciated the most in real terms. The BOT deficit to GNP ration increased from -6.1 percent in 1989 to -14.1 percent in the first 6 months of 1996. However, the deficit in the BOT is financed by: (1) remittances of overseas contract workers; (2) peso conversion of foreign currency units; and (3) direct investment, mostly portfolio investment. The last few years saw surges in the inflow from these sources.

The policy response of the government to the surge in foreign resource inflows consisted of the following measures: (1) intervention; (2) sterilization; (3) reduction in reserve requirements; and (4) budget surplus. The government has been actively purchasing foreign exchange in the market that resulted in the huge accumulation of foreign reserves. To minimize the inflationary effects of this measure, the government issued government debt papers to sterilize the effects of the

purchases. As a result, quasi-fiscal cost mounted. The rises in inflation and interest rates have been checked. Interest rates have not been increasing because of the series of reduction in reserve requirement, which is a tax on financial intermediation. While both inflation and interest rates have been checked, the government has not been able to arrest the real appreciation of the currency.

A closer look of the historic movement of the FOREX would show that: (1) the foreign exchange rate policy of the Philippines is reactionary (i.e., FOREX is adjusted only during periods economic crises); (2) thus, FOREX depreciation is generally associated with stagflation; and (3) the exchange rate policy is crucially linked with foreign debt service (i.e., there is a general reluctance to a FOREX depreciation, because of its huge budgetary implications through debt service payments).

Research has shown that real appreciation of the FOREX has adverse effects on the economy. In particular, the study found that: (1) a real peso appreciation of say 10 percent leads to an 8 percent reduction in the lists of industries with comparative advantage; and (2) a resource flow from the tradable to the non-tradable sector, as indicated by the declining share of export-oriented firms in the Board of Investment approved and new projects. Furthermore, those sub-sectors with the lowest value-added coefficient are the ones which would benefit most from a real appreciation of the currency. Within the tradable sector, on the other hand, the exporting sectors with the highest value added coefficient would be the ones which would be most adversely affected.

The current structure of Philippine exports may due to the FOREX policy pursued. The export sector structure is lopsided — highly dominated by two nontraditional, manufacturing industries with very limited links with the domestic economy. These sectors are garments and semiconductors. The value-added component in these two sectors is very low.

Model simulations indicate that between 1988 and 1994, output growth could have grown 5.1 percent more, had the exchange rate not been allowed to appreciate in real terms. The impact of nominal depreciation of the currency on prices is not significant as generally claimed. A nominal depreciation that would just allow real exchange rate to maintain its level would have had a marginal effect of 2.3 percent on the inflation rate. Thus, the simulation results would show that the output effect of a constant real exchange rate is higher than the inflation effect.

The issue of exchange rate adjustments and realignment has become highly politicized in the Philippines. There has been strong and growing resistance to any exchange rate depreciation from various groups, especially from big businesses, militant labor groups, and even small farmers. This is because major

exchange rate adjustments and realignment in the Philippines took place during periods of severe economic crisis. Therefore, exchange rate policy has not been used as part of a development strategy, but as a reactionary policy tool during periods of economic crunch and instability. Thus, exchange rate depreciation in the Philippines has always been associated primarily with stagflation. The efficiency, competitiveness, and growth issues that come along with an exchange rate depreciation are usually set aside.

Analysis has shown strong indications that the financial sector reforms have been implemented quite aggressively relative to the real sector reforms. For example, although nominal tariffs have been reduced as part of the real sector reforms, the manufacturing sector has enjoyed a higher effective protection rate (EPR) from 1988 to 1992 if all exemptions, incentives and subsidies are taken into account. Thus, the relatively aggressive financial sector reform may have created inaccurate market signals that led to surges in capital inflows. The fact that the effective protection is still in place may have prevented the absorptive capacity of the economy, in general, to be able to utilize the capital inflows efficiently.

RUSSIA



Economic reforms in 1992-1996 have resulted in fundamental systemic changes in Russia's economic mechanism. A high level of liberalisation has been achieved in creation of outward-looking economy. The results of Russian reforms, however, have contradictory appraisals. In 1991-1995 GDP dropped by 35 percent. Considering the complications of economic reforms, the exchange rate management targets in Russia were to contribute to financial and monetary stabilization as a preliminary condition for implementing a long-term development strategy. Exchange rate management in Russia has passed through different stage in 1989-1996.

Exchange rate management in Russia has passed through different steps in 1989-1996. In 1989, the Central Bank of the USSR began to introduce an official foreign currency market based on a Rouble floating regime to replace the Government centralized distribution of hard currency. Hidden inflation in the USSR/Russia, coupled with a multiple Rouble/USD exchange rate have distorted the mechanism of macroeconomic management, and misrepresented the real economic processes in the country.

Since July 1992, the Central Bank of Russia (CBR) stopped fixing a multiple exchange rate of the rouble and started determining an official rouble exchange rate based on the results of daily foreign currency trade on the Moscow Interbank Currency Exchange (MICEX). That was the period of rouble exchange rate free floating. The CBR intervened from time to time to slow the decline of the rouble exchange rate. Russian

commercial banks participated actively in the game of full value on exchange rate fluctuation.

In early 1994, the CBR started introducing full scale control over the national currency exchange rate fluctuations. The CBR banned the internal use of cash forms of hard currency from January 1994. The rouble's rate of decline accelerated in late 1994, reflecting the worsening fiscal situation and fears of accelerating inflation. This resulted in a crisis on October 11, 1994 ("Black Thursday"), when the Russian currency lost 21.5 percent of its value against the US dollar in just one day's trade. Since the end of 1994, monetary and fiscal policy were considerably tightened, leading to greater demand for roubles.

In 1995, exchange rate management became the real priority in the CBR monetary and financial policy to curb the inflation. Since July 1995, the CBR has maintained the rouble within a target band, known as the rouble corridor. After three years of high inflation rates and rapid rouble depreciation, 1995 marked the beginning of a period of decelerating inflation and a more stable rouble. The Russian economy responded to the government's disinflationary policy. The average monthly rate of inflation was 7.4 percent in 1995, as compared to 10 percent in 1994.

Since July 1, 1996, Russia has moved from a strict target band rouble corridor to a so called "sliding peg system" or "sloping rouble corridor," based on Rouble/USD exchange rate fluctuation forecasts. Only strictly limited changes were permitted as compared to forecasted Rouble/USD exchange rate

fluctuations. The managed rouble exchange rate was also to be based on the inflation rate. The CBR still considers the rouble exchange rate as an anchor in curbing inflation. The main aim of the CBR's monetary policy is to support the rouble, and there have been no deviations from this policy. In November 1996, the CBR declared a new "sloping rouble corridor" target of 5500-6100 Roubles/1USD for January 1, 1997, and 5750-6350 Roubles/1USD for December 31, 1997.

As a result of the introduced rouble corridor, the rouble real exchange rate appreciated and caused a considerable reduction of exporters' revenues. Export tariffs on many goods were radically reduced in October 1995 to partially compensate for these losses. By early 1996, all export tariffs were abolished and export tariffs on oil, gas and some other raw materials were halved. All these measures are expected to stimulate Russian exports.

The rouble real exchange rate fluctuation, however, could not play a decisive role in foreign trade dynamics. Steady export growth

in 1992-1995 was determined mainly by a deep decrease in industrial production, which had resulted in an extra surplus of raw materials in the domestic market, and in their outflow on the world market. Transition to an open market economy also provided a rapid growth of imports, which revealed poor competitive capacities of Russian manufacturers, as well as entire industries.

The specification of objective function, the type of shock impinging upon the economy in transition and changes of economic structure, were crucial factors that determined the choice of exchange rate regime in Russia. There are a host of other factors that complicate exchange rate management in Russia. An unstable economic situation provokes looking for arguments in favour of either fixed or floating exchange rates. In Russia, it has resulted in a managed floating system within a "rouble corridor" as a rationale for some degree of exchange rate management between the two regimes.

SINGAPORE



Singapore is amongst one of the few economies in the East-Asia region which has enjoyed robust and sustained economic growth, at the same time achieving full employment with price stability since her 1985-86 recession. Macroeconomic stabilisation by the Monetary Authority of Singapore (MAS) since the early 1980's has been dominated by monetary policy, which essentially is the exchange rate policy. Given that the government's consistent objective of budgetary policy is to contain operating and development expenditures at a level capable of being financed by government revenues, the role for active fiscal stabilisation in Singapore is some what curtailed.

MAS has adopted the exchange rate as the moving nominal anchor for monetary policy since the early 1980's, which concentrates on a single anchor instead of simultaneously monitoring a few intermediate targets or control measures; neither would Singapore indulge in maintaining an official peg of some sort as this may lead to unrealistic exchange rates. Singapore's real effective exchange rate (REER) index exhibited declining trends in the mid 1980's, but thereafter picked up from 1989, and we expect the Singapore dollar to weaken slightly in 1997. In fact, in terms of the REER index, the Singapore dollar has appreciated against the US dollar by as much as 27 percent since the 1985-86 recession.

To fully appreciate the exchange rate management of the MAS, one must first be familiar with Singapore's economic circumstances, which in turns have profound macro policy implications. Firstly, Singapore is a small open economy engaged in international trade. Given the non-oil domestic exports

being the largest component of aggregate demand in Singapore, the exchange rate has therefore a powerful effect on the GDP. With the high import content constituting to 70 percent of exports and 60 percent of total domestic expenditures, domestic prices are largely determined by world prices for a given exchange rate.

Secondly, Singapore is an international financial centre dominated by a large offshore banking sector, with neither exchange controls nor restrictions on foreign direct investment flows. Given the free convertibility of deposits between local and foreign currencies and swift capital mobility to exploit covered interest arbitrage, the policy implications are such that domestic interest rates are largely determined both by foreign rates and expectations on future strength of the Singapore dollar. Complete capital mobility in the absence of exchange controls and substantial balance of payment flows imply that movements in domestic monetary aggregates are affected by funds from abroad.

Thirdly, Singapore has a prudent government with fiscal surpluses and strong savings. Due to favorable external environment and strong regional growth, the 1980's and 1990's have been decades of good economic upturns, with gross national savings as a percentage of GDP amounting to 45 percent throughout the 1990's. These rather unusual government and institutional features added another dimension to the exchange rate policy, not only in terms of incipient appreciation of the Singapore dollar and the liquidity drain from the banking system, but also complicates implementation of the policy objectives.

The shift towards the exchange rate centred monetary policy since the inflationary environment of the early 1980's appears to have been highly successful in as far as the ability to contain imported inflation. Imported inflation has been more than completely neutralised through the exchange rate policy with about 34 percent appreciation in US\$/S\$ nominal exchange rate for the 1980-1985 period. So long as inflation as measured by the consumer price index is being kept low, a more gradual appreciation of the Singapore exchange rate would be expected.

With regard to the alignment between exchange rates and current account balances, the relationship is less than clear cut for the several factual observations outlined below. Firstly, Singapore's current account had generally improved in the 1980-1995 period, while the REER fluctuated in the same period with moderate appreciation in the early 1980's followed by a period of substantial depreciation between 1985 to 1988 and continued appreciation in the post-1988 period. Secondly, it appears that benefits of lower costs

for imported intermediate goods have more than offset the disadvantages of the strong Singapore dollar to export prices given the high import content of the Republic's exports. Thirdly, given the negligible substitution effect between domestic and imported goods, a stronger Singapore dollar does have a negative impact on nominal expenditures for imports, since low import prices actually further offset the negligible substitution effects.

In conclusion, we suspect that MAS has no long-term ability and intention to "target" the exchange rate and the exchange rate "guiding" policy serves only to smooth rate fluctuations. For the rest of the 1990's, the Singapore dollar points towards further orderly gradual appreciation. MAS did not actually engineer the steady appreciation of the Singapore dollar since the mid 1980's, the market did. The authority happened to agree with a strong Singapore dollar for maintaining price stability and duly recognised the new role of the exchange rate for moderating an overheated economy.



Similar to other major economies, Chinese Taipei's foreign exchange rate system has been undergoing structural changes for the last four decades. To begin with, a system of *fixed* exchange rate had been adopted prior to 1969. The formal foreign exchange market was established and the *floating* exchange rate system was hence put to use in January 1979. However, *center rate* and *daily movement restrictions* were implemented in Chinese Taipei's foreign exchange market between February 1979 and May 1986. The revision of the Statue for the Administration of Foreign Exchange (SAFE) in May 1986 represented a significant step of financial liberalization of Chinese Taipei. The *dirty* floating system was abolished in April 1989. Since then, a *free* floating system has been employed in Chinese Taipei's foreign exchange market.

Prior to 1979, the exchange rate of the NTD vis-à-vis the USD was practically held constant with two exceptions of appreciation which occurred in February 1973 and July 1978. In contrast, beginning from the early 1980s, the volatility of the exchange rate increased noticeably. The volatility of the NTD/USD exchange rate in four periods are examined. As Chinese Taipei became more liberalized in both current and capital accounts, the exchange rate was inevitably subject to the volatility of external factors such as the variation in the Balance of Payment, the fluctuations in the prices of primary goods in international market, and the movements of major currencies. We examine the relationship among NTD/USD and factors such as money supply variables, inflation rate, nominal interest rate, trade surplus, real interest rate differentials,

and the exchange rates of Yen/USD and DM/USD. It is shown that some of the variables such as CPI and trade surplus are not highly correlated with NTD/USD. Judging from the high correlation coefficients between NTD/USD, Yen/USD, and DM/USD, it appears the long-term movements of NTD/USD are strongly influenced by Yen/USD and DM/USD.

The real effective exchange rate (REER) of the NTD is also investigated. It seems that the movement of the REER index of the NTD is consistent with that of nominal exchange rate. According to the nominal exchange rate, the NTD depreciated in the early 1980s, appreciated in the late 1980s, and then stabilized in the early 1990s. Based on the REER index, the NTD began its depreciation in 1981, then went on an appreciation process starting from 1986 and reached its peak in 1989, and depreciated thereafter, except when it surged again in 1992.

Although the fluctuations of the NTD in the depreciation and stabilization periods did cause certain concerns, the NTD appreciation produced the most significant consequences to the economy. Three major consequences are studied: (1) fundamental changes in foreign direct investment; (2) the emergence and bursting of the bubble economy; and (3) stable price levels. The fast appreciation of the NTD produced several fundamental changes in FDI. For example, it practically drove labor-intensive industries into the world market. During the late 1980s, outward FDI went to southeastern Asia countries. In the early 1990s, China became favorite destination of outward investment. This phenomenon is usually referred as *the industry hollowing-out effect*.

In addition to increased outward investment, inward FDI from developed countries experienced reductions along the way. Therefore, Chinese Taipei suffered remarkable amounts of capital outflow in terms of FDI between 1988 and 1990. In other words, Chinese Taipei has revised its status from capital importer to capital exporter since 1988, even though a remarkable amount of portfolio investment in the early 1990s was taken into account. Moreover, because the industries that drive Chinese Taipei's economy have gradually shifted from labor-intensive to capital- and technology-intensive ones, not only is inward FDI focused in these *uprising* industries, but also outward FDI flows to developed countries, such as the United States, western Europe, and Japan, to secure sources of technology.

Appreciation or even the expectation of appreciation of the NTD undoubtedly induced *hot money* flowing into Chinese Taipei. Most of this found its ways to the stock market and the real estate market and caused the bubble economy. Once the NTD stabilized in the early 1990s, however, both the stock and real estate markets became stale. Even after seven years, the stock and real estate markets have never recovered from the bubble bursting.

Moreover, the money game atmosphere nurtured in the late 1980s has adversely affected the hard work ethic of the people on this island.

If no actions are taken to offset its impacts, the accumulation of foreign reserves eventually will either force local currency to appreciate, or put inflationary pressure on the local economy. During the depreciation period, the NTD significantly accumulated, but in the appreciation period of the late 1980s, the inflationary pressure had been held in check because the Central Bank pursued a series of sterilization measures to mitigate inflationary pressure. As a result, the annual growth rate of the CPI had never been higher than 5 percent in the late 1980s, a remarkable decrease comparing with that of the early 1980s. In addition, between 1985 and 1989, the annual growth rate of the WPI had remained below zero. In contrast, the monetary aggregate, in terms of M1B, even reached an annual growth rate of 55 percent in 1987. From the relatively stable monetary environment during the late 1980s, it appears that the intervention actions taken by the Central Bank had produced satisfactory results.

UNITED STATES



The 1980-95 period witnessed two episodes in which the value of the dollar moved first sharply in one direction, and soon thereafter in a reversed direction. From 1980-1985, the value of the dollar rose by over 40 percent and then between 1985 and 1987 fell back to where it started. Then again, after a period of stability between 1988 and 1993, and between 1993 and mid-1995, the dollar fell by another 20 percent before recovering since then. The two subperiods of considerable instability in the value of the dollar gave rise to fears of serious misalignments in nominal as well as real exchange rates, and in turn, to various efforts by monetary and fiscal authorities to intervene.

The sharp appreciation of the dollar in the early 1980s was associated with an unusual combination of extremely loose fiscal policy and extremely tight monetary policy (the latter aimed at reducing the rate of inflation). The result was a sharp increase in interest rates which triggered a massive inflow of foreign capital, and converted the current account balance from one of surplus to one of deficit. The current account has remained negative ever since and, with the exception of the sharp recession year 1991, these deficits have generally been large (often in excess of \$100 billion).

When the value of the dollar was at its peak in the mid-1980s, there was considerable recognition that it was severely overvalued, and yet a "bubble" mentality seemed to prevent its fall. To help overcome this stickiness and also the huge US current account deficit, eventually, G-7 countries agreed to policy coordination and to intervention. Most (but not all) evaluations of the attempts at direct intervention

in foreign exchange markets have concluded that they have been rather ineffective. On the other hand, when there was genuine cooperation in the monetary and fiscal policies of G-7 and especially G-3 countries, the current account balance moved toward equilibrium and the value of the dollar stabilized.

The expanding current account deficit and the fall in the value of the dollar from 1993 to mid-1995 gave rise to fears that the US dollar was considerably undervalued and yet to rising concerns with the sustainability of the current account deficits. The fall in the value of the dollar was accentuated by US support for the Mexican peso in the aftermath of the devaluation of the peso which was forced upon Mexican authorities in December, 1994. Once again, fears of further decline in the dollar and the non-sustainability of the large US current account deficits gave rise to international efforts to deal with both problems. Although the dollar has regained most of the value it lost in the 1993 to mid-1995 period, the current account deficit continues to soar.

Through these various exchange rate crises, there have been recurring signs of equilibration failures. For example, exchange rates appear to have sometimes been locked in one direction or another by "rational bubble" behavior on the part of speculative traders in foreign exchange markets. Also, many relevant flows of the US, in both the current and capital accounts, have been found to react only very slowly or even perversely to changes in relative prices such as interest rates and exchange rates. In addition, nominal and relative goods prices respond slowly and incompletely to nominal exchange rate changes. US monetary and fiscal

authorities seem to have given rather low priority to stabilizing the value of the dollar. Some of the factors lying behind both the adjustment failures and lack of policy response may have to do with such factors as the continuing importance of non-traded goods in the US economy, and the incompletely competitive character of the market for tradables both at home and abroad which insulates tradable prices from exchange rate changes.

As a result of increasing openness and the deregulation of product and factor markets,

both within the US and elsewhere, as well as gradual depreciation of the dollar, the US has become more competitive internationally in some sectors. In recent years considerable progress has also been made in reducing the fiscal deficit. Nevertheless, the current account deficit remains at or near its all-time high. Private savings rates remain too low to compensate for the still negative government savings rate, and to reduce dependence on capital inflows. The prospects for future changes in these respects remain quite uncertain.

VIETNAM



It can be said that in Vietnam, the exchange rate policy has been established since 1989-1990. When the former Soviet Union and West European markets were disintegrated, Vietnam had to shift its trade to the sector using USD in payment. At the beginning period (1989-1991), the exchange rate between the Vietnamese dong and the US dollar sharply fluctuated in a continuous upward trend, because it was "let floated." The fixed and multi-exchange rate system was replaced by a managed floating and single-exchange rate system. The exchange rate was devaluated close to the market one. The State canceled its subsidized system through exchange rate for foreign trade activities. All payments abroad have been carried out in US dollars.

In 1990, the exchange rate between the Vietnamese dong and the US dollar increased by 50 percent against that at the beginning of the year. The escalation of the US dollar resulted in the dollar speculation and devious trading among domestic economic organizations. Banks could not control the circulation of currencies.

In this period, the exchange rate was unified by a single one, and was devaluated close to the market level. The State Bank of Vietnam (SBV) announced the official exchange rate based upon internal and external inflation rates, export-import exchange rate, the situation of the balance of payments, and the fluctuation of exchange rates in the international markets, etc. Based on this official rate, the commercial banks determined their trading exchange rates within allowed margins. In detail, the SBV pursues a policy of a stable exchange rate, and controls the dong's value against the US dollar

accordingly. The Bank permits a 0.5 percent fluctuation on either side of the official rate (which it fixes on a daily basis), and has set up a Foreign Exchange Stability Fund in USD to be used if required to support the dong. This is the first time the SBV introduced an exchange rate close to the free market. The difference between the official exchange rate and the market exchange rate has been reduced. This led to exchange rate changes in line with fluctuations of supply and demand for foreign currencies in the market. This is one important element contributing to an increase in foreign trade turnover of 20 percent per year.

Facing with the above differences, the Government was forced to reform the foreign exchange regulation and change the method determining exchange rate. Exchange control is administered by the SBV and in 1991 as a part of its plans to establish a base for the development of a foreign exchange market, the SBV established Foreign Exchange Transaction Centers (FETCs) in Hochiminh city and Hanoi to trade the dong against the USD.

In 1994, the US dollar repeatedly devaluated against other currencies, especially against the Japanese yen. But in Vietnam's market, the value of the US dollar still increased creating good conditions for export, suitable to the strategy for the outward-oriented economy of Vietnam. On October 1, 1994, the interbank foreign currency market was established instead of FETCs. The market is organized and managed by the SBV of Vietnam under Banking Decree law. Through the sign of the market, SBV as a final buyer and seller uses the Foreign Currency Fund to intervene effectively in the market to implement monetary and fore

rate policies of the Government. The exchange rate of the Vietnamese dong was determined according to the export-import rate, and in comparison with the general value of some hard currencies directly influencing Vietnamese economy, such as the US dollar, the Japanese yen, and the Deutschmark. The exchange rate, however, was being adjusted according to supply and demand. From November 21, 1996 the SBV of Vietnam permits a 1.0 percent fluctuation on either side of official rate.

The open-door economic policy has created many problems for the Vietnamese economy:

(1) which currency should be selected in commercial contract payments; (2) loan strategy and debt paying policies; and (3) selecting foreign currencies mechanism.

In the future, Vietnam will have financial and monetary policies suitable to the interest rate and the quantities of currencies in circulation. In order to reduce inflation, promote domestic production and increase the competitiveness of Vietnamese made goods in the international market. Vietnam in doing its best, step by step, to reduce the influence of the US dollar.

APPENDIX

Figure A1
GROWTH RATES: PACIFIC REGION, 1981-95

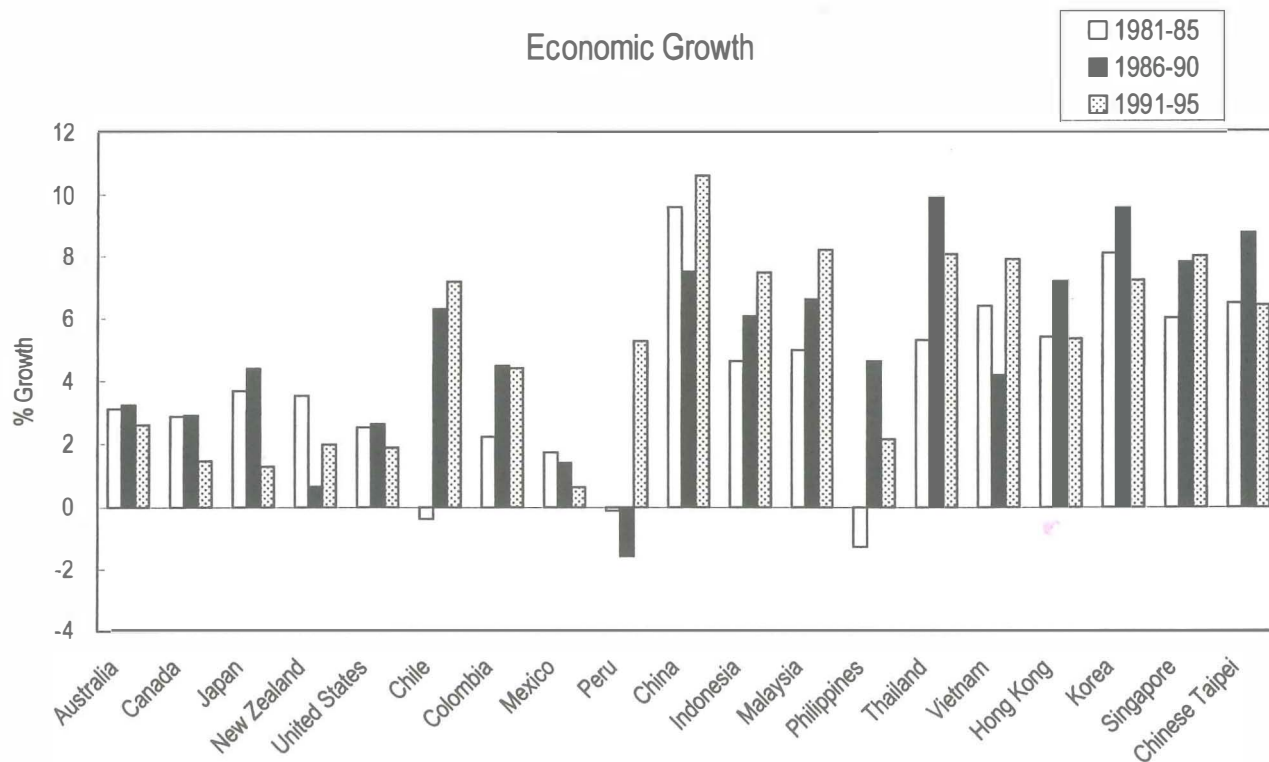


Figure A2
INFLATION: PACIFIC REGION, 1981-95/96

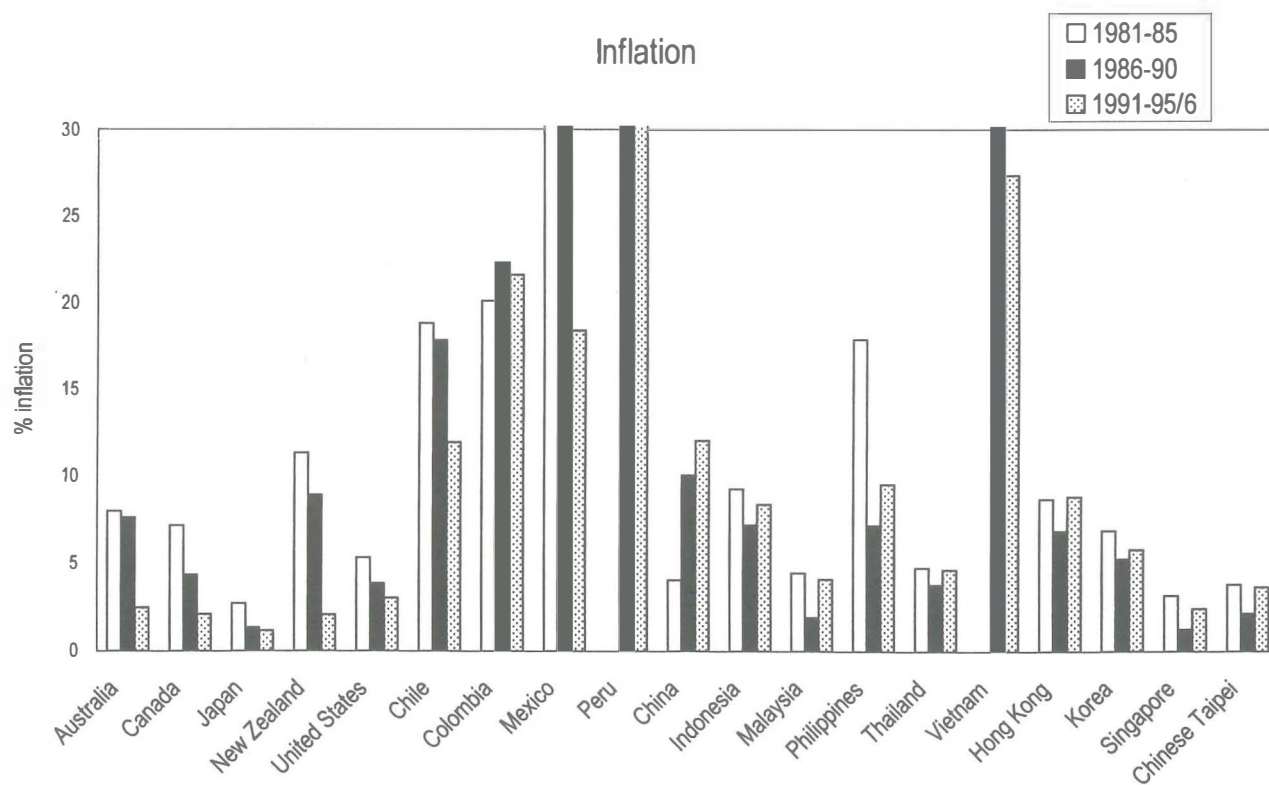


Table A1

Nominal Exchange Rate (us\$/local currency, 1990=100)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Australia	147.1	130.2	115.5	112.6	89.7	85.9	89.7	100.4	101.4	100.0	99.7	94.1	87.0	93.7	94.9	100.2
Canada	97.3	94.6	94.7	90.1	85.4	84.0	88.0	94.8	98.5	100.0	101.8	96.5	90.4	85.4	85.0	85.6
Chile	782.2	599.2	386.9	309.2	189.4	158.1	139.0	124.5	114.2	100.0	87.3	84.1	75.4	72.6	76.9	74.0
China	280.6	252.7	242.1	206.2	162.9	138.5	128.5	128.5	127.0	100.0	89.9	86.7	83.0	55.5	57.3	57.5
Colombia	921.7	783.8	637.0	498.2	352.9	258.6	207.0	167.9	131.3	100.0	79.3	66.1	58.2	59.5	55.0	48.4
Hong Kong	139.3	128.3	107.1	99.6	100.0	99.8	99.9	99.8	99.9	100.0	100.2	100.6	100.7	100.8	100.7	
Indonesia	291.7	278.6	202.7	179.6	165.9	143.7	112.1	109.3	104.1	100.0	94.5	90.8	88.2	85.2	82.0	78.7
Japan	65.7	58.1	61.0	61.0	60.7	85.9	100.1	113.0	105.0	100.0	107.5	114.3	130.2	141.7	153.9	133.1
Korea	103.9	96.8	91.2	87.8	81.3	80.3	86.0	96.8	105.4	100.0	96.5	90.7	88.2	88.1	91.8	88.0
Malaysia	117.4	115.8	116.5	115.4	108.9	104.8	107.4	103.3	99.9	100.0	98.4	106.2	105.1	103.1	108.0	107.5
Mexico	11480.0	4986.9	2341.9	1676.2	1094.8	459.7	204.1	123.7	192.4	100.0	93.2	90.9	90.3	83.3	43.8	37.0
New Zealand	145.7	125.9	112.0	96.9	83.5	87.8	99.2	109.9	100.3	100.0	97.0	90.1	90.6	99.4	109.9	115.2
Peru	44494435.2	26935206.4	11537516.9	5419827.5	1712088.5	1347194.8	1116074.1	145885.1	7047.5	100.0	24.3	15.1	9.5	8.6	8.3	7.7
Philippines	307.7	284.7	218.8	145.6	130.7	119.3	118.2	115.2	111.8	100.0	88.5	95.3	89.6	92.0	94.5	92.7
Singapore	85.8	84.7	85.8	85.0	82.4	83.2	86.1	90.1	92.9	100.0	104.9	111.3	112.2	118.7	127.9	128.5
Chinese Taipei	73.0	68.7	67.1	67.9	67.5	71.1	84.7	94.1	101.8	100.0	100.3	106.9	101.9	101.7	101.5	
Thailand	117.3	111.2	111.2	108.2	94.2	97.3	99.5	101.2	99.5	100.0	100.3	100.7	101.1	101.7	102.7	101.0
Vietnam				41800.0	33440.0	27866.7	2229.3	557.3	116.7	100.0	55.2	44.7	46.2	45.8	45.5	45.5

Source: IMF, International Financial Statistics, and ADB, Key Indicators.

Table A2

Real Effective Exchange Rates (1990=100)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Australia	86.9	86.7	95.8	102.9	100.0	98.6	89.4	83.8	87.0	85.0	93.3
Canada	81.7	84.7	92.2	98.3	100.0	103.1	98.7	87.7	81.9	78.8	
Chile	115.5	107.2	100.7	103.1	100.0	102.8	108.7	110.9	113.2	119.6	123.8
China	108.2	101.5	116.7	131.1	100.0	107.0	111.1	130.7	231.3	214.1	
Colombia	136.6	121.8	117.4	113.2	100.0	102.9	112.0	118.4	132.7	134.5	144.0
Hong Kong	86.5	85.1	80.5	84.6	100.0	103.9	107.7	114.4	113.7	114.9	
Indonesia	139.4	106.3	102.1	104.5	100.0	97.4	95.7	99.2	95.5	91.1	
Japan	108.6	113.2	118.6	111.5	100.0	106.7	111.1	135.5	145.8	153.9	
Korea	77.6	77.3	87.3	101.4	100.0	99.2	94.1	91.2	91.7	92.8	
Malaysia	123.1	116.7	106.6	104.7	100.0	97.3	104.0	105.1	102.2	102.7	107.0
Mexico	83.3	76.6	93.3	100.6	100.0	109.8	116.7	124.3	116.7	72.0	
New Zealand	87.9	104.6	108.9	103.4	100.0	95.5	85.8	89.1	94.4	99.9	107.1
Philippines	106.9	98.3	96.1	103.1	100.0	99.8	110.9	110.4	117.3	120.4	129.8
Singapore	89.3	84.2	82.5	95.6	100.0	102.5	103.8	101.9	105.6	106.9	
Chinese Taipei	78.3	83.7	90.5	100.6	100.0	99.0	94.4	99.2	101.1	102.8	
Thailand	97.0	92.1	87.3	90.1	100.0	99.5	97.1	95.6	93.7	90.3	
United States	124.3	108.8	102.4	105.5	100.0	97.7	96.3	98.8	97.7	92.3	

Source: IMF, International Financial Statistics, and ADB, Asian Economic Outlook.

Table A3
Manufacturing Shares of Exports and Imports

	Manufacturing Share (%) Export		Manufacturing Share (%) Import	
	1980	1993	1970	1993
Australia	20	42	83	86
Chile	10	18	73	81
Colombia	20	40	84	83
New Zealand	20	27	77	82
Peru	18	17	73	70
Canada	49	66	80	85
Indonesia	2	53	85	76
Malaysia	19	70	59	84
Mexico	12	75	81	86
Philippines	37	76	68	75
Thailand	28	73	79	81
China	48	81		85
Hong Kong	92	95	69	89
Japan	96	97	25	49
Korea	90	93	55	63
Singapore	50	80	58	80
Chinese Taipei	88	93	63	76
United States	68	82	64	81

Source: World Bank, World Development Report.

Table A4
Inflation and its Volatility

	Average Inflation (%)			Inflation Volatility (%)		
	1981-85	1986-90	1991-95/6	1981-85	1986-90	1991-95/6
Australia	8.0	7.6	2.5	2.8	0.7	2.1
Canada	7.2	4.4	2.1	3.6	0.4	1.9
Chile	18.8	17.8	12.0	5.6	3.7	6.2
China	4.1	10.1	12.1	4.0	6.9	7.0
Colombia	20.1	22.3	21.6	3.6	3.3	3.2
Hong Kong	8.7	6.9	8.8	3.7	2.8	1.1
Indonesia	9.3	7.2	8.4	2.8	1.3	0.8
Japan	2.7	1.3	1.2	1.2	1.2	1.3
Korea	6.9	5.3	5.8	7.2	2.4	1.9
Malaysia	4.5	1.9	4.1	3.3	1.1	0.7
Mexico	54.6	52.9	18.4	8.5	30.2	9.3
New Zealand	11.3	8.9	2.1	4.4	4.2	1.7
Peru		393.8	50.1		55.2	154.0
Philippines	17.9	7.2	9.6	13.2	5.8	3.7
Singapore	3.2	1.3	2.4	2.9	1.8	0.9
Chinese Taipei	3.8	2.2	3.7	6.4	1.8	0.5
Thailand	4.8	3.8	4.7	4.3	1.7	1.0
United States	5.3	3.9	3.0	2.7	1.3	1.0
Vietnam		111.9	27.4		60.4	21.5

Source: IMF, International Financial Statistics, and ADB, Key Indicators.

Table A5

Degree of Openess (%)=(1/2)*(Exports+Imports)/GDP

	1980	1995
Australia	17.0	20.4
Canada	27.4	36.2
Japan	14.1	8.7
New Zealand	30.9	29.3
United States	10.6	11.8
Chile	24.9	28.3
Colombia	15.9	18.4
Mexico	11.8	22.6
Peru	20.8	14.0
Russia		18.8
Vietnam		35.0
China	7.4	20.1
Indonesia	26.3	27.3
Malaysia*	56.3	90.6
Philippines	26.0	40.0
Thailand	27.2	44.7
Hong Kong	74.0	127.6
Korea	37.7	33.7
Singapore	184.9	142.5
Chinese Taipei	53.1	47.7

Source: Same as in Table A4.

Table A6

Degree of Financial Deepening (%) =M2/GDP

	1980	1995
Australia	41.2	64.0
Canada	46.8	61.4
Japan	86.2	114.2
New Zealand	27.6	78.5
United States	62.9	58.5
Chile	26.0	37.8
Colombia	20.3	21.2
Mexico	29.0	35.0
Peru	21.2	18.7
Russia		16.3
Vietnam		21.2
China	19.1	104.3
Indonesia	16.9	58.1
Malaysia*	52.5	89.1
Philippines	30.7	50.4
Thailand	38.0	80.8
Hong Kong	67.9	203.8
Korea	32.9	43.8
Singapore	64.0	84.5
Chinese Taipei	64.0	182.9

Source: Same as in Table A4.

PACIFIC ECONOMIC OUTLOOK

SPECIALISTS ON STRUCTURAL ISSUES

COORDINATOR

Akira KOHSAKA*
Professor of Economics
Osaka School of International Public Policy
Osaka University

AUSTRALIA

Tony MAKIN*
Senior Lecturer in Economics
Department of Economics
University of Queensland

Stewart JONES +
Counsellor (Economic)
Australian Embassy, Tokyo

CANADA

James POWELL*
Deputy Chief, International Division
Bank of Canada

John C. SLOAN
Counsellor (Finance)
Embassy of Canada in Tokyo

CHILE

Patricio ROJAS*
Manager of Macroeconomic Programming
Research Division
Central Bank of Chile

CHINA

WANG Yuanlong*
Senior Economist,
Institute of International Finance
Bank of China

BI Jiyao +
Research Fellow
Academy of Macroeconomic Research
State Planning Commission

GENG Shuang +
Research Assistant
CNCPEC

HUANG Fanzhang +
Senior Research Fellow
Academy of Macroeconomic Research
State Planning Commission

COLOMBIA

Rodrigo SUESCUN*
Senior Economist
Central Bank of Colombia

Hernando VARGAS Herrera*
Director, Macroeconomic Department
Central Bank of Colombia

HONG KONG

TANG Kwong Yiu*
Government Economist
Economic Analysis Division
Financial Services Branch
Hong Kong Government

INDONESIA

Miranda S. GOELTOM*
PEO Structure Coordinator
INCPEC

JAPAN

Chi Hung KWAN
Senior Economist
Nomura Research Institute, Ltd.

Jun SAITO
Senior Economist
Japan Center for Economic Research

Shinji TAKAGI
Professor of Economics
Faculty of Economics
Osaka University

KOREA

CHO Dongchul*
Research Fellow
Korea Development Institute

MALAYSIA

Ong Hong Cheong*
Senior Analyst
Institute of Strategic and International Studies
(ISIS) Malaysia

MEXICO

Roberto MARINO*
Manager of International Economic Affairs
Bank of Mexico

NEW ZEALAND

John SAVAGE*
Head of Macroeconomics Division
New Zealand Institute of Economic Research

PERU

Mauricio DE LA CUBA*
Chief of Department: Macroeconomic Analysis
Central Reserve Bank of Peru

Luis PALACIOS
Deputy Manager of Investigation and Global
Analysis
Central Reserve Bank of Peru

PHILIPPINES

Caesar B. CORORATON*
Research Fellow
Philippine Institute for Development Studies

RUSSIA

Valery R. NAZIROV*
RNCPEC
c/o Department of Economic Cooperation
Ministry of Foreign Affairs of the Russian
Federation,
Moscow Interbank Currency Exchange
(MICEX)

Vladimir I. IVANOV +
Chairman,
Asia-Pacific Regional Studies Department,
IMEMO, Russian Academy of Sciences &
Visiting Research Scholar, Faculty of Law,
University of Tokyo

SINGAPORE

TAN Khee Giap*
Head, Public Policies Studies Unit
Nanyang Technological University

TOH Mun Heng +
Senior Lecturer
Department of Business Policy
Faculty of Business Administration
National University of Singapore

CHINESE TAIPEI

Ray B. DAWN*
Director of Financial Research Division
Taiwan Institute of Economic Research

Shiow-Ying WEN
Associate Research Fellow
Taiwan Institute of Economic Research

UNITED STATES

Jeffrey B. NUGENT*
Professor of Economics
Department of Economics
University of Southern California

Caroline M. BETTS*
Assistant Professor
Department of Economics
University of Southern California

VIETNAM

NGUYEN Huu Hai*
Chief, Division of Foreign Exchange Rates
State Bank of Vietnam

NGUYEN Van Dinh +
Lecturer of Banking and Finance
National Economics University

TRAN Kim Chung +
Research Fellow/Forecaster
Central Institute of Economic Management

PEO/STRUCTURE SECRETARIAT

ISHIKAWA Masumi
Deputy Executive Director
Japan Committee for PEO

ANZAI Sayuri
Program Officer
Japan Committee for PEO

Michael A. THOMPSON
Associate Professor, Business & Economics
Kansai Gaidai University

Notes:

* indicates the author of the individual country/region summary in this issue.

The positions and affiliations are as of September 1996 when the second Specialists Meeting was held. Those with

+ are as of March 1996, at the time of the first Specialists Meeting.

PACIFIC ECONOMIC COOPERATION COUNCIL MEMBERS

PACIFIC ECONOMIC COOPERATION COUNCIL

PECC International Secretariat
4 Nassim Road
Singapore 258372
Tel: 65-737-9823
Fax: 65-737-9824

AUSTRALIA

Australian Pacific Economic Cooperation Committee
(AUSPEC)
JG Crawford Building
Australian National University
Canberra ACT 0200, Australia
Tel: 61-6-249-0153
Fax: 61-6-249-0169

BRUNEI DARUSSALAM

Brunei Darussalam Committee for Pacific Economic
Cooperation (BDCPEC)
Economics Department, Ministry of Foreign Affairs
Jalan Subok
Bandar Seri Begawan 1120, Brunei Darussalam
Tel: 673-2-261-274
Fax: 673-2-261-703

CANADA

Canadian National Committee for Pacific Economic
Cooperation (CANCPEC)
c/o Asia Pacific Foundation of Canada
666-999 Canada Place
Vancouver, BC, V6C 3E1
Canada
Tel: 1-604-684-5986
Fax: 1-604-681-1370

CHILE

Chilean National Committee for Pacific Economic
Cooperation (CHILPEC)
c/o Chile Pacific Foundation
Av. Los Leones 382, Of. 701, Providencia
Santiago, Chile
Tel: 56-2-334-3200
Fax: 56-2-334-3201

CHINA

China National Committee for Pacific Economic
Cooperation (CNCPEC)
c/o China Institute of International Studies
3 Toutiao Taijichang
Beijing, China 100005
Tel: 86-10-6513-1421
Fax: 86-10-6523-5135

COLOMBIA

Colombia National Committee for Pacific Economic
Cooperation (COLPECC)
Ministry of Foreign Affairs
Calle 10 No 5-51
Santafé de Bogotá, Colombia
Tel: 57-1-233-2625
Fax: 57-1-283-8441

HONG KONG, CHINA

Hong Kong Committee for Pacific Economic Cooperation
(HKCPEC)
c/o Trade Department, 18/F Trade Department Tower
700 Nathan Road
Kowloon, Hong Kong
Tel: 852-2398-5305
Fax: 852-2789-2491

INDONESIA

Indonesian National Committee for Pacific Economic
Cooperation (INCPEC)
c/o Centre for Strategic and International Studies (CSIS)
Jalan Tanah Abang III/23-27
Jakarta, 10160, Indonesia
Tel: 62-21-386-5532
Fax: 62-21-384-7517

JAPAN

Japan Committee for Pacific Economic Cooperation
(JANCPEC)
c/o Japan Institute of International Affairs
11F, Kasumigaseki Building
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100, Japan
Tel: 81-3-3503-7744
Fax: 81-3-3503-6707

KOREA

Korea National Committee for Pacific Economic Cooperation (KOPEC)
300-4, Yeongok-dong, Seochu-gu
Seoul 137-800, Korea
Tel: 82-2-3460-1239
Fax: 82-2-3460-1244

MALAYSIA

Malaysia National Committee for Pacific Economic Cooperation (MANCPEC)
c/o Institute of Strategic and International Studies (ISIS)
No.1 Pesiaran Sultan Salahuddin
P.O. Box 12424 50778 Kuala Lumpur, Malaysia
Tel: 60-3-293-9366
Fax: 60-3-293-9430

MEXICO

Mexico National Committee for Pacific Economic Cooperation (MXCPEC)
c/o General Director for Economic Affairs with Asia, Pacific, and North America
Ministry of Foreign Affairs
Flores Magón No.2, 1st Floor
06900 Mexico, DF
Tel: 525-782-4158
Fax: 525-117-4218

NEW ZEALAND

New Zealand Committee for the Pacific Economic Cooperation Council (NZPECC)
c/o Asia 2000 Foundation
Level 7 AMP House, 109 Featherston Street
P.O. Box 10144
Wellington, New Zealand
Tel: 64-4-471-2320
Fax: 64-4-471-2330

PERU

Peruvian National Committee for Pacific Economic Cooperation (PERUPEC)
Ministry of Foreign Affairs
Palacio Torre Tagle
Jr. Ucayali 363
Lima, Peru
Tel: 51-1-426-0130
Fax: 51-1-426-2686

PHILIPPINES

Philippine Pacific Economic Cooperation Committee (PPECC)
c/o APEC Foundation of the Philippines, Inc.
8/F Ramon Cojuangco Building
Makati Avenue, Makati City
Philippines
Tel: 63-2-817-1970
Fax: 63-2-810-4444

RUSSIA

Russian National Committee for Pacific Economic Cooperation (RNCPEC)
Department of Economic Cooperation
Ministry of Foreign Affairs
Arbat 54/2
121200 Moscow, Russian Federation
Tel: 7-095-241-3530
Fax: 7-095-253-9088

SINGAPORE

Singapore National Committee for Pacific Economic Cooperation (SINCPEC)
c/o School of Accountancy and Business
Room 01A-09
Nanyang Technological University
Nanyang Avenue, Singapore 639798
Tel: 65-799-4761
Fax: 65-793-0523

CHINESE TAIPEI

Chinese Taipei Pacific Economic Cooperation Committee (CTPECC)
c/o Taiwan Institute of Economic Research
8F, 16-8, Tehwei Street
Taipei, Taiwan
Tel: 886-2-586-5000
Fax: 886-2-594-6528

THAILAND

Thailand National Committee for Pacific Economic Cooperation (TNCPEC)
Department of Economic Affairs
Ministry of Foreign Affairs
Saranrom Palace
Bangkok 10200, Thailand
Tel: 66-2-225-7385
Fax: 66-2-226-1841

UNITED STATES

United States National Committee for Pacific Economic Cooperation (USNCPEC)
1112 16th Street NW, Suite 520
Washington, DC 20036, U.S.A.
Tel: 1-202-293-3995
Fax: 1-202-293-1402

VIETNAM

Vietnam National Committee for Pacific Economic Cooperation (VNCPEC)
c/o Executive Vice Chair/CEO
171 Vo Thi Sau, Q3
Ho Chi Minh City SR Vietnam
Tel: 84-8-823-0301
Fax: 84-8-829-4472

PACIFIC ISLANDS NATIONS

South Pacific Forum Secretariat
Private Mail Bag
Suva, Fiji
Tel: 679-312-600
Fax: 679-301-102

