Exchange Rate Policy in the Post Financial Crisis: The Case of SEACEN Countries

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FOREWORD

An exchange rate policy has at least two dimensions: the macroeconomic aspects which form a coherent part of the overall macroeconomic strategy and the microeconomic aspects which focus on national competitiveness of the economy. Thus, exchange rate policy is normally not independent from any existing constraints on domestic economic policy. An optimal exchange rate policy should also take into account possible exchange rate misalignment and the trade-off between flexibility and credibility.

The rapidly changing environment of increasing liberalization and globalization of markets which result in increased capital mobility have made the choice of exchange rate regime a matter of concern for policy makers. In fact, some analysts have argued that the recent financial crisis in East Asia had its root from, among others, the inappropriate exchange rate policies.

The SEACEN research project on *Exchange Rate Policy in the Post Financial Crisis: The Case of SEACEN Countries* was conducted to address some of the pertinent issues mentioned above. It provides an overview of the main reasons for the choice of exchange rate regime in the SEACEN countries prior to the crisis. It also analyses the exchange rate policies focusing on the trend of real effective exchange rate and structure of balance of payments, and assesses the impact of exchange rate policy on some of the macroeconomic variables. The project was implemented by Mr. Wijoyo Santoso, short-term Research Economist, seconded from Bank Indonesia, under the guidance and supervision of Dr. Siri Ganjarerndee, ex-Senior Assistant Governor of the Bank of Thailand who acted as a consultant for this project. Mrs. Jamia'h Jaffar, Senior Research Associate at the Centre, provided research assistance while Ms. Karen How and Mr. Zamri Abu Bakar, both Administrative Officers at the Centre, helped preparing the manuscript for publication.

The SEACEN Centre wishes to record its profound appreciation to Bank Indonesia for seconding Mr. Wijoyo Santoso to work on the project. The Centre would also like to thank the Directors of Research of the SEACEN member central banks and monetary authorities for their kind assistance in providing the required data and useful comments on the first draft of the project report. However, the analysis and views

expressed in the report are those of the author, and do not necessarily reflect those of The SEACEN Centre or its member central banks and monetary authorities.

Dr. Subarjo Joyosumarto
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Executive Summary

EXCHANGE RATE POLICY IN THE POST FINANCIAL CRISIS: THE CASE OF SEACEN COUNTRIES

By: Wijoyo Santoso[1]

There is no single theoretical framework adequately illuminating the behavior of choice of exchange rate regime in most country in the world including SEACEN countries. The economy openness argument can partly explain the behavior of exchange rate choice for number of country but without firm causal relationship. Less open economies (meaning lower trade dependency ratio) tend to pursue more flexible exchange rate regime because the domestic economy is less vulnerable to the external shocks, but, this does not mean that more open economy would choose more fixed exchange rate regime. The world economy is more open economy necessitating that one country increasingly interacts with one another through international trade so that the option of exchange rate regime for them do not solely rely on the economy openness. Most SEACEN countries are generally open economies, of which Singapore, Malaysia, and Taiwan are the most three open economies. The economy openness consideration cannot decisively illuminate the behavior of exchange rate choice for SEACEN countries: before and after the crises. Only for Thailand before the crises, and for Malaysia after the crises, the choice of exchange rate regime is in line with the economy openness consideration.

The economy size consideration can also only in part illuminate the choice of exchange rate regime for number of countries but, again, the causal relationship is not clear. Sizable economies (higher nominal GDP) would be beneficial to opt more flexible exchange rate regime, as they are more self-sufficient, more diversified, and less open. However, this does not imply that less sizable countries would opt fixed exchange rate regime. The economy size consideration, however, can noticeably light up the behavior of exchange rate regime in SEACEN countries,' before and after the crises. Most SEACEN countries perform sizable economy of which Korea, Taiwan, and Indonesia are the most sizable economies.

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1. Wijoyo Santoso is shot-term senior economist at The SEACEN Centre, seconded from Bank Indonesia.

The international reserve argument, furthermore, cannot obviously enlighten the behavior of exchange rate regime choice for most countries. Most countries in the world possess relatively low international reserves, less than US10 billions dollar. There is no strong evidence that countries holding lower international reserves tend to pursue more flexible exchange rate regime, as they relatively own low capacity to defend their currencies. In contrast, strong evidence exhibits countries enjoying highly international reserves like to pursue more flexible exchange rate regime. The level of international reserves, both relative and absolute terms, could not also steadfastly enlighten the choice of exchange rate regime in SEACEN countries. The highly reserves countries, such as Singapore and Taiwan, do not execute fixed exchange rate regime even though they have relatively strong capacity to defend their own currency, instead, they implement more flexible exchange rate regime: before and after crises. For Malaysia case, however, the choice of fixed exchange rate regime after the crises corresponds with the international reserve consideration.

The nature of shock argument had been able to serve critical reason for the shift toward more flexible exchange rate regime in SEACEN countries before and after the crises. This movement was aimed at reducing exchange rate misalignment and earning exchange rate policy flexibility in a way of absorbing external disturbances, such as tightening or loosening monetary and fiscal policy in the main trading partner countries, so that flexible exchange rate can function as an adjuster mechanism of stabilizing output.

The macroeconomic policy objective consideration had further facilitated some additional basic reason for the movement toward more flexible exchange rate regime in SEACEN countries. This movement is to offer greater flexibility for domestic monetary management in achieving domestic price stability. Some countries, such as Korea and Indonesia, have moved toward inflation targeting strategy in attaining price stability and even have gained some degree of central bank independence. The movement was also inspired by the difficulty to maintain fixed exchange rate regime under increasingly open economy and perfect capital mobility, while at the same time have to preserve the export competitiveness against main trading partners.

Before crises, especially since 1990-early 1994, most SEACEN countries under basket peg and managed floating exchange rate regimes had successfully managed exchange rate stability and, thus, domestic

price stability, while at the same time upholding export competitiveness. Since mid 1994 onward, however, there was tendency for most SEACEN countries, in basket peg and managed floating exchange rate regime in particular, to experience upward trend REER or appreciation. Under large capital inflows, defending fixed exchange rate or maintaining a narrow exchange rate band was not obviously sustainable. The substantial capital inflows under more perfect capital mobility and increasingly open economy had weakened the effectiveness of monetary policy in sterilizing the surplus balance of payment in a way of stabilizing exchange rate. As a result, their REER tended to significantly appreciate and, in turn, worsened the export competitiveness and stimulated speculative attacks. Under independent floating exchange rate regime, since there is no official obligation to defend the certain level of exchange rate, the sterilization policy is not always necessary, allowing exchange rate appreciation in way of clearing surplus balance of payment in the case of large capital inflows.

Before crises, in term of the strategy of exchange rate policy, Singapore utilizes NEER as immediate target to achieve price stability and requires strong domestic currency to contain domestic inflation. The only way to maintain export competitiveness, then, is to lower domestic inflation relative to trading partner's inflation. Before crises, Singapore's REER had performed the most competitive one amongst SEACEN members although with increasing trend. Other SEACEN countries employ monetary aggregate as operational target of monetary policy in attaining price stability. Under this framework, exchange rate policy strategy is facilitated to prop up the achievement of domestic price stability through maintaining a narrow exchange rate band, and at the same time preserving export competitiveness and business confidence. Taiwan and Malaysia had maintained the balance between the occurrence of exchange rate depreciation and appreciation against their main trading partners on monthly basis in a way of minimizing the direct impact on domestic inflation, and, thus, preserving export competitiveness. Sizable relative international reserves and highly open economy, in some way, had enabled them to apply such exchange rate policy strategy. Whereas, Korea, Indonesia, and Sri Lanka had carried out more frequent nominal exchange rate depreciation against their main trading partners in a way of improving export competitiveness, but escorted by higher domestic inflation and wider exchange rate band. Under basket peg exchange rate regime, Thailand and Nepal had also executed more frequent nominal exchange rate depreciation against their main trading partners in a way of improving export competitive-

ness. However, such exchange rate policy strategy had induced higher domestic inflation, and thus, further worsening export competitiveness in the longer term.

After the crises, countries under independent floating exchange rate regime had experienced massive exchange rate adjustment. Their REER trend had sharply adjusted downward toward the lowest point in January 1998 before starting to climb up. In term of REER index, Indonesia, Korea, and Thailand were the most competitive amongst this exchange rate regime countries. Malaysia, which had moved to single peg exchange rate regime since September 1998, had gained some short-term relative export competitiveness in term of both relative changes and REER index, escorted by low exchange rate volatility and increasing business confidence. Since that period until May 1999, Malaysia's REER index was the most competitive after Indonesia and Korea, and this had facilitated good opportunities to accelerate economic recovery. On the other hand, other competitors: Indonesia, Korea, and Thailand had endured great exchange rate adjustment from large depreciation to large appreciation, accompanied by high exchange rate volatility and lower business confidence. After crises, Singapore and Sri Lanka continued to implement managed floating exchange rate regime with the same exchange rate policy strategy as be done in the pre-crises. Sri Lanka, Nepal, and Mongolia continued to apply the same exchange rate policy strategy, before and after crises, in a way of improving their export competitiveness through frequent nominal exchange rate depreciation against its main trading partners. However, due to persistently higher domestic inflation relative to the main trading partners, their REER index were still much less competitive as compared to the rest SEACEN countries.

Another important determinant of the option of exchange rate regime is the structure of balance of payment, especially the composition of capital account. More long-term capital inflows in terms of official inflows, FDI and other private long-term inflows, which were required to finance the prevailing current account deficits, would enable authority to reduce short-term exchange rate volatility, thus, to preserve the existing exchange rate regime. The significant share of short-term capital inflows had produced more difficulty for countries like Thailand, Indonesia, and Korea in upholding the pre-crises exchange rate regime against large external shocks. The more expansive fiscal policy somehow had helped Korea and Thailand government in coping with the crises as compared to Indonesia whose fiscal policy was less expansive and more political and social uncertainties.

Although Philippines was less competitive as compared to most independent floating exchange rate regime countries, the better shape of its balance of payment structure (higher portion of long term capital inflows), higher marginal propensity to consume, and strong fiscal policy had been relatively able to sustain from further economic down turn, as result of the crises. As the longest SEACEN country experiencing independent floating exchange rate regime, Philippines' investors have been used to with higher exchange rate volatility and external shocks. However, the relatively less export competitiveness may weaken the balance of payment in the longer term.

Nepal, Sri Lanka, and Mongolia also have better shape of balance of payment structure even though they revealed as the least competitive countries amongst SEACEN members. More long-term capital inflows necessitated to fund their current account deficits had reduced risks of sudden capital outflows, then, allowed the authority to preserve the current exchange rate regime till now. Malaysia also had been benefited from relatively better shape of its balance of payment structure. More long-term capital inflows (FDI and official inflows) escorted by large scale of fiscal stimulus, and high domestic savings rate had enabled Malaysia to accelerate its economic recovery. The movement toward single peg exchange rate regime is to create business confidence, especially for long-term investment.

Singapore and Taiwan had experienced significant current account surplus and portrayed strong balance of payment structure. The strong balance of payment structure had made easier for authority to select and preserve the existing exchange rate regime. Singapore, as a financial center in this region and as the most open economy, had continued to uphold managed floating exchange rate regime after crises. Significant share of long-term investment shared with the high domestic saving rate, both private and government savings rates, and huge international reserves, had enabled the Singapore government to prevent economic contraction during the crises. Taiwan, however, reacted differently. As the second largest economy amongst SEACEN members and less open economy relative to Singapore, Taiwan had moved toward independent floating exchange rate regime after crises. The ample international reserves and strong balance of payment structure had enabled Taiwan authority to stabilize exchange rate, domestic price level, and, thus, business confidence. Subsequently, accompanied by strong government investment and domestic consumption, Taiwan was able to maintain relatively high economic growth after the crises.

Thus, the economy size, macroeconomic policy objectives, and the structure of balance of payment have been able to sufficiently enlighten the behavior of exchange rate regime movement in most SEACEN countries: before and after crises. Under increasingly open economy and more perfect capital mobility, the movement toward independent floating exchange rate regime, taken by most SEACEN countries after the crises, seems to the proper action even though likely to be supplement with higher exchange rate volatility. The best way to achieve exchange rate stability, domestic price stability, business confidence, and long-term export competitiveness is, then, through increasing the authorities' credibility, accountability, transparency, and good governance in managing the national economy. Restructuring the balance of payment toward more long term-capital inflows shall be the additional way in minimizing the short-term exchange rate volatility, and thus preserving the existing exchange rate regime.

INTRODUCTION

The Asian currency and financial crises have highlighted some important policy implications for both monetary and exchange rate policy. In response to that, Indonesia and Korea had shifted from managed to independent floating exchange rate system, while Thailand moved from basket peg to independent floating exchange rate regime. Korea and Indonesia had modified their monetary policy framework through employing inflation targeting, escorted with more transparency and accountability in a way of achieving a more respectable and credible central bank. Malaysia has responded in its own way by imposing capital controls and shifting from managed floating to a fixed exchange rate regime since September 1998. The movements were concluded following the expense billions US dollar for the unsuccessful battle against huge speculative attacks mid 1997 onward in a way of defending their own currency. It may be argued in this respect that the inappropriate exchange rate policy could be the one of factors triggering off the crises.

Singapore and Sri Lanka continue to linger on the managed exchange rate regime. Singapore, as the most open economy and as the center of financial services in this region, had been relatively able to manage the crises and continues to stay on the prevailing exchange rate regime, thanking to the massive international reserves recorded at 88 percent of nominal GDP in 1998. Because of less crises-affected country and had a better shape of balance of payment structure, Sri Lanka remains stay on managed floating exchange rate regime. Philippines and Mongolia continue to linger on independent floating exchange rate regime. In coping with the crises, the Philippines has been relatively benefited from its own long-lasting experience of independent floating since December 1984. The least crises-affected country, Nepal still resides on the basket peg exchange rate regime, owing to its less open and sizable economy.

An exchange rate policy has at least two dimensions. First is macroeconomic aspect of which form a coherent part of the overall macroeconomic strategy, and second is microeconomic aspect of which focus on national competitiveness of the economy. The exchange rate policy is normally not independent from any existing constraints on domestic economic policy. Under fixed exchange rate regime, the exchange rate policy tends to weaken the monetary policy flexibility in influencing the economy, allowing more important role of fiscal policy in stabilizing output. Furthermore, it serves some degrees

of certainty and stability for business activities. Before the crises, the exchange rate stability had promoted more investment and consumption many SEACEN countries, accompanied by a steady export growth. The exchange rate stability had offered a necessary condition, although it is not a sufficient condition, for maintaining sustainable economic growth. The success of authority to open up the economy, dismantle the barriers to capital account transactions, and sufficiently fill up the saving-investment gap by foreign borrowing had increased government's self-confidence in handling the economy. Some SEACEN country had been blessed with such enormous capital inflows, permitting the high economic growth, relatively low inflation, but with large current account deficits.

Even, they had experienced significant surplus overall balance of payment, pushing the authority to sterilize it in a way of avoiding exchange rate appreciation and maintaining exchange rate stability. If the surplus is substantially large and domestic economy increasingly integrates to international economy, the sterilization policy may not be effective in maintaining exchange rate stability, as the interest rate rise would attract capital inflows. As a result, monetary policy is powerless, exchange rate may appreciate, thus, weakening export competitiveness. The policy issue of competitiveness leads on how the strategy of exchange rate policy should be headed for in order to sustain long-last competitiveness. Singapore, had tried to maintain export competitiveness through lowering domestic inflation relative to its trading partner inflation, whereas Taiwan and Malaysia through balancing between the occurrence of depreciation and appreciation in a way of minimizing the inflationary impact on domestic prices. Other countries such as Indonesia, Korea, and Thailand had applied consistent nominal depreciation, but higher domestic inflation relative to their trading partners' had worsen their export competitiveness.

Another important issue is how capital inflows are used. Capital inflows are expensive goods, so they must be utilized in effective and efficient ways to earn additional foreign exchange so that foreign debt could undoubtedly be served. However, if the capital inflows were invested in non-productive sectors: real estate and to finance consumption, that would weaken the financial capacity to repay debts and, even, create more financial and economic dependency against foreign lenders. The huge inflows of capital at the back of strong economic fundamentals also resulted in a substantial accumulation of foreign

exchange reserves, which made the countries less vulnerable to speculative attacks. However, whether the inflows are sustainable and less prone to sudden reversals depend on the nature of the inflows. Long term capital inflows such as foreign direct investment and other long-term investment, thus, are preferable to ensure the longer-term exchange rate stability in a way of maintaining sustainable economic growth. Therefore, the better structure of balance of payment and productive investment may facilitate a sufficient condition for sustainable economic growth.

Under fixed exchange rate regime, the export competitiveness would be affected by both domestic and trading partners' inflation. If domestic inflation lower relative to trading partners', the export would be more competitive. Using Purchasing Power Parity (PPP) approach, the difference between nominal and real exchange rate between two countries should reflect inflation differential. If not, there must be other factors such as country risk, expected depreciation or appreciation, interest rate differential, and productivity differential, contributing to the deviation from PPP. As exchange rate is fixed, there is no direct impact on inflation. However, the indirect impacts are channeled through aggregate demand and output gap. The authorities are credible as long as they are able to maintain the stability of exchange rate and with low and stable inflation rate. As fixed exchange rate regime serves some degrees of business certainty, it tends to stimulate over-investment, leading to higher aggregate demand and some inflationary pressure as a result.

Under managed or independent floating exchange rate regime, the export competitiveness would be influenced by both the exchange rate volatility and inflation. The pass-through effect of exchange rate volatility to domestic prices is channeled through direct impact on tradable goods (raw material, intermediate, capital, and consumption goods); and through indirect impact on the changes in domestic demand. Exchange rate depreciation shall elevate imported goods prices in the short run and reduce investment and consumption in the longer run due to higher prices of both tradable and non-tradable goods. As under this regime, exchange rate is more relatively volatile as compared to fixed exchange rate regime, the government must be more credible, accountable, transparent, and have a good governance in a way of reducing the exchange rate volatility.

An appropriate exchange rate policy should also take into account possible exchange rate misalignment and the trade-off between flexibility and credibility. The rapidly changing environment of increasing liberalization and globalization of markets which resulted in increased capital mobility have made the choice of an exchange rate system a matter of concern to policy makers. On hindsight, many analysts have argued that the current financial turmoil and its contagion effect were intensified, among others, by "inappropriate" exchange rate policy. In the post crisis environment, the non-economic events such as political uncertainty and labor unrest, resulted in continued uncertainty and volatility of the exchange rates. As this could undermine the incipient economic recovery and fuel inflation, there is a need to study how the exchange rate system and other macroeconomic policies of SEACEN countries can best complement each other in the new environment.

This research paper attempts to examine the reasons behind the exchange rate policy response taken by the SEACEN countries and to study the impact of different kind of exchange rate regimes on macroeconomic variables such as real effective exchange rate, inflation, economic growth: before and after the crises. The research paper is systematized as follows. Some general considerations in selecting the exchange rate regime will be offered in Chapter one. This includes the country's economic structures: the economy openness, the economy size and trade diversification, and the level of international reserves; macro-economic policy objectives in the sense whether the policy maker wish to emphasize on monetary policy or fiscal policy in influencing the domestic economy; and the nature of exogenous shocks whether they are monetary or real shocks. The Mundell-Flemming model is exploited to further elucidate the inter-dependence amongst the short-term macroeconomic policies: monetary, fiscal, and exchange rate policies; in a way of examining the effectiveness of monetary policy under various kind of exchange rate regime.

The historical overview of exchange rate arrangement in 10 SEACEN countries will be supplied in chapter two. This shall embrace the basic rationale behind the choice and the movement of exchange rate regimes, before and after the financial crisis. Moreover, this chapter will observe whether the choice of and the movement exchange rate regime relates with economic structures, macroeconomic policy objectives, and type of external shocks. The impact of different kind of exchange rate regime on selected macroeconomic variables such as real

effective exchange rate, balance of payment structure, inflation, and GDP would be discussed in Chapter three. The chapter should able to enlighten on how the contribution of exchange rate policy toward macroeconomic stability is channeled. The conclusion and possible recommendations are put in chapter four.

The analysis in this paper would employ some statistical tools: means, standard deviations, charts, and Kernel density's sample distribution. This case study covers 10 SEACEN countries: Nepal, Thailand, Korea, Singapore, Malaysia, Sri Lanka, Indonesia, Taiwan, Philippines, and Mongolia. The calculation procedures and formula of Bilateral Real Exchange Rate, NEER, REER, and trade weighted trading partner inflation are given as follows.

$$\text{NER Index} = \frac{E_t^i}{E_{1995}^i} \times 100$$

$$\text{CPI} = \frac{CPI_t^i}{CPI_{1995}^i} \times 100$$

$$\text{RER Index} = \frac{CPI_t^{dom}}{CPI_t^{fp}} \times NERindex_t$$

$$\text{NEER Index} = \sum_{i=1}^{n} NERindex_t \times W_i$$

$$\text{REER Index} = \sum_{i=1}^{n} RERindex_t \times W_i$$

$$\text{TWCPI} = \sum_{i=1}^{n} CPI_t \times W_i$$

NER is bilateral nominal exchange rate, RER is bilateral real exchange rate, NEER is nominal effective exchange rate, REER is real effective exchange rate, and TWCPI is trade weighted consumer price index.

E_i is exchange rate (foreign currency per domestic currency).

E_{1995} is average exchange rate in 1995.

CPI_{1995} is average consumer price index in 1995.

CPI^{dom} is domestic consumer price index, 1995=100.

CPI^{fp} is trading partner consumer price index, 1995=100.

W_i is trade weighted for country i^{th}.

"i" is a number of country.

"t" is period of time.

Chapter One

DETERMINANTS OF EXCHANGE RATE REGIME AND VARIOUS EXCHANGE RATE ARRANGEMENTS

I. General Considerations in Choosing Exchange Rate Regime

1. The Degree of Openness

The openness of the economy generally links to trade and financial liberalization measures: such as tariff and non-tariff reductions (the openness toward foreign investors in the financial market, goods market as well as for labor market). The simple way to roughly measure the economy openness is to compare between total international trade and nominal GDP, so-called trade dependency ratio[1]. The conventional argument enlightening the economy openness and exchange rate regimes had been proposed by McKinnon in 1963 in the theory of optimum currency areas. He argues that more open economy would get greater advantages to peg its currency to the currency of its main trading partner to avoid the cost of frequent exchange rate fluctuations, reducing unwanted speculative movements and guaranteeing convertibility of currencies. The argument emphasizes that the more open the economy, the more vulnerable the economy to external shocks would be (such as capital outflows, the rise of main trading partners' interest rate, and contagion effects), then, the economy should have relatively fixed exchange rate in order to reduce the costs of frequent exchange rate adjustments and stabilize domestic output.

For highly open economy country, exchange rate fluctuations are not compatible with the objective of domestic price stability so that fixed exchange rate regime would be optimal. If the highly open economy is close to full employment, the only way to improve trade balance in order to stabilize output is via reduction of domestic absorption, not by changing the relative price between tradable and non-tradable goods. Exchange rate is less effective as an adjuster in external balance because of its damaging effects on the internal price stability objective. Changes in exchange rate will be offset by domestic price repercussions with no improvement in trade balance. On the contrary, less open normally has a large non-tradable sector, more self-sufficient,

1. Trade dependency ratio or TDR is calculated as a ratio of total international trade (export plus import) to nominal GDP, measured in US dollar.

and therefore, flexible exchange rate is more preferable. The above argument relies on the implicit assumption that the áuthority has ample international reserves to defend the exchange rate against significant speculative attacks or has some restrictions on capital account, including capital control, to abate the room of speculative attacks. Otherwise, the exchange rate may severely fluctuate and the domestic economy may suffer from inflationary pressures, then, lessen real economic growth at least in the short-run.

It may be argued, nevertheless, that due to the external shocks, exchange rate should be adjusted to stabilize output by generating external demand, assuming that the Marshall-Lerner condition is met (the sum of foreign demand elasticity of export plus domestic supply elasticity of export is greater than one). The reduction on real consumption and real investment due to inflationary pressures as a result of exchange rate depreciation should be offset by higher real export growth so that output is stabilized. This argument, thus, very much relies on the highly efficient and productive export sector of which may function well as an adjuster when there are external shocks. Hence, the economy openness argument may not be much influential for number of countries.

Table 1.1: Exchange Rate Arrangements Based on the Economy Openness Measured by Trade Dependency Ratio, for 146 countries, 1998

Exchange Rate Regime	Rel. Closed Economy TDR up 30 percent		Open Economy TDR >30 - 60 percent		Highly Open Economy TDR >60 percent		Total Country	
	Country	Percent	Country	Percent	Country	Percent	Country	Percent
Peg	3	14	22	35	26	41	51	33
- Single currency	2	10	14	23	19	30	35	23
- Basket of currencies	1	5	8	12	7	11	16	10
Flexibility Limited[2]	0	0	9	13	6	9	15	10
More Flexible	18	86	31	50	31	49	80	57
- Managed	6	29	19	28	16	25	41	27
- Independent	12	57	12	19	15	24	39	31
Total	21	100	62	100.0	63	100	146	100

Sources: The Exchange Rate Arrangement and Exchange Restrictions 1998, IMF.

2. Flexibility limited countries are normally the European Economic Community countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Portugal, and Spain) plus Bahrain, Qatar, Saudi Arabia, and United Arab Emirates.

Applying the trade dependency ratio as a measure of economy openness and observing 146 countries along with different kind of exchange rate regime, we reveal some findings as follows. First, the world economy tends to be is more open economy, recorded at 76 percent of total country has trade dependency ratio more than 30 percent[3]. Second, the evidence that relatively closed economy tend to choose more flexible exchange rate regimes is very strong, accounted for 86 percent of total closed economy country. This obviously supports the McKinnon's argument. However, third, the evidence that more open economy tends to employ fixed exchange rate regime to avoid external shocks is not strong: witnessed at 35 percent in moderately open economy class and 41 percent in highly open economy class. This does not fully support McKinnon argument. Fourth, most countries tend to pursue more flexible exchange rate regime, accounted for 61 percent of total country (excluding the flexibility limited country).

Hence, the causal relationship between the economy openness and the exchange rate regime is uncertain. The more closed the economy, the more preference to choose more flexible exchange rate. But, this does not necessarily mean that the more open the economy, the more likely to implement fixed exchange rate regime. Moreover, the pegged exchange rate countries tend to show more opened economy. However, the more flexible exchange rate countries tend to have more closed economy is not always the case.

Table 1.2: Exchange Rate Arrangements for SEACEN Countries Based on Ratio International Trade GDP, Average Ratio 1990-96, Before Crises

Exchange Rate Regime	Below 30 percent	Between 30-60 percent	More than 60 percent
Peg	1	1	1
- single currency	1	0	0
- basket of currencies	0	1	1
More Flexible	0	3	5
- Managed	0	2	4
- Independent	0	1	1
Total	1	4	6

Sources: The Exchange Rate Arrangement and Exchange Restrictions 1998, IMF.

3. For analytical purposes, countries whose trade dependency ratio between 0-30 percent is considered relatively closed economy, between more than 30 to 60 percent is moderately open economy, and more than 60 percent is very open economy.

The economy openness consideration could not adequately enlighten the behavior of exchange rate regime in SEACEN countries. Most SEACEN countries are generally open economies and tended to pursue more flexible exchange rate regime. Even, before crises, the three most open economy: Singapore, Malaysia, and Taiwan, had implemented more flexible exchange rate regime. The above Weerasekera (1992) had conducted a study for 10 SEACEN countries using data in 1989/90 and found that there is no systematic pattern emerged regarding the relationship between openness and the flexibility of the exchange rate regime.

2. The Economy Size and Trade Diversification

Small country has generally small size of economy in term of small domestic money market, limited foreign exchange market, low nominal GDP in term of US dollar and less diversified foreign trade. Dreyer (1978) argued that sizable countries would tend to opt more flexible exchange rate regime as a large economy is likely to be more diversified, more self sufficient, and hence, less open. They blessed with structural diversification of their economies, as well as their geographical diversification with their exports and imports. Less sizable countries, on the other hand, tend to specialize in one or few economic activities, and rely on large imported goods to satisfy the domestic needs. They, therefore, have no other options but to peg its currency to its main trading partner's currency or with one of the major economic powers. The Dreyer's argument is derived from Kenen (1969), Whitman (1969), and Giersch (1973), offering that export diversification may reduce the necessity to adjust exchange rate frequently. Dreyer had studied 97 developing countries using data from 1975-1976 and concluded that, amongst the many considerations emerging from the literatures, size of country, rather than openness, dominates the choice of exchange rate regime.

Measuring the economy size by the nominal GDP of 152 countries under different kind of exchange rate regimes has revealed some evidence as follows[4]. First, the proportion between small and large countries is almost in balanced: 53 percent of total country has nominal GDP below US10 billions dollar. Second, there is strong evidence that

4. For analytical purposes, country whose nominal GDP less than US10 billions dollar is regarded as small country, more than US10 bilions dollar is large country.

the high nominal GDP countries tend to opt more flexible exchange rate regime. Excluding the flexibility limited countries, 84 percent of 55 countries in this category pursue more flexible exchange rate regime. This supports the Giersch, Kenen, and Whitman argument. However, third, the evidence that the small nominal GDP countries tend to go for fixed exchange rate regime is not strong. About 55 percent of 80 countries in this category peg their currency to a single currency or composite currencies while 45 percent of them follow more flexible exchange rate regime. Fourth, relatively pegged exchange rate countries tend to have small nominal GDP. They normally peg their currencies to US dollar or French franc or others (such as Deutsch mark, Australian dollar, Italian lira, Portuguese escudo, Indian rupee, Singapore dollar and South Africa rand). More flexible exchange rate countries, however, do not necessarily have high nominal GDP. The high nominal GDP countries tend to choose more flexible exchange rate regime, but small nominal GDP countries do not necessarily select fixed exchange rate regime. Only Argentina, Malaysia and Syrian Arab Republic, whose GDP more than 30 billion US dollar, have pegged their currencies to a single currency.

Table 1.3: The Exchange Rate Arrangements for 152 Countries Based on the Economy Size (Measured by Nominal GDP in USD)

Exchange rate regime	≤ USD 10 billions		More USD 10 billions		Total	
	Country	Percent	Country	Percent	Country	Percent
Peg	44	55	9	13	53	35
- Single currency	33	41	4	6	37	24
- Basket of currencies	11	14	5	7	16	11
Flexibility Limited	0	0	17	24	17	11
More Flexibile	36	45	46	64	82	54
- Managed	14	18	27	38	41	27
- Independent	22	28	19	26	41	27
Total	80	100	72	100	152	100

Sources: IFS June 1999 and The Exchange Rate Arrangements and Exchange Restrictions 1998, IMF.

In the case of SEACEN economies, the economy size consideration could sufficiently expound the behavior of exchange rate regime: before and after crises. The more sizable economies in SEACEN countries tended to execute more flexible exchange rate regime. Korea, Taiwan, and Indonesia are the most three sizable economies in SEACEN countries.

Table 1.4: Exchange Rate Arrangements for SEACEN Countries Based on the Economy Size Measured Nominal GDP, Average 1990-96, Before Crises

Exchange Rate Regime	Below USD10 billions	Between USD 10-30 bill.	More than USD50 billions
Peg	1	1	2
- single currency	0	0	0
- basket of currencies	1	1	2
More Flexible	1	0	6
- Managed	0	0	4
- Independent	1	0	2
Total	2	1	8

Sources: The Exchange Rate Arrangement and Exchange Restrictions 1998, IMF.

3. The Level of International Reserves

The higher international reserves may theoretically mean more capacity to defend the domestic currency against speculative attacks, thus, the authority may prefer to select fixed exchange rate regime. Most countries in the world, 82 percent, have normally low level of international reserves, accounted for below 10US billions dollar. Only six countries: Japan, Germany, China, Hong Kong, Taiwan, Singapore, have international reserves more than US30 billions dollar. In practice, however, there is no strong evidence that low international reserve countries tend to execute more flexible exchange rate regime. The strong evidence tend to show that higher international reserve countries prefer to implement more flexible exchange rate regime. The evidence in SEACEN countries also exhibited that higher international reserve countries tend to pursue more flexible exchange rate regime.

Table 1.5: Exchange Rate Arrangements for 138 Countries Based on the Level of International Reserves (percent, otherwise stated)

Exchange Rate Regime	Below 10 US Billion	Between 10-30 US billion	More than 30 US billions
Peg	47	11	0
- single currency	33	11	0
- basket of currencies	14	0	0
More Flexible	53	89	100
- Managed	28	50	33
- Independent	25	39	67
Total	120	12	6

Sources: The Exchange Rate Arrangement and Exchange Restrictions 1998, IMF.

4. Macro-economic Policies Objectives

This argument tries to expedite that the choice of exchange rate regime in more open economies may depend on whether the authorities wish to rely more on monetary policy or fiscal policy in achieving domestic objectives (price stability or exchange rate stability, economic growth, balance of payment), leaving exchange rate policy as a residual. If they consider gaining more flexibility of domestic monetary policy in influencing the economy, independent floating exchange rate regime is the best choice. Countries implementing inflation targeting normally have independent floating exchange rate regime in which monetary policy has only single objective, namely, price stability. In doing so, some countries grant more independency to their central bank: goal or instrument independence, or both. Countries executing inflation targeting are Reserve Bank of New Zealand, Reserve Bank of Australia, Bank of England, Bank of Canada, The Riksbank of Sweden, Israel, and lately: Central Bank of Brazil, bank of Korea, and Bank Indonesia. However, if authorities focusing more on fiscal policy to influence the economy, fixed exchange rate is more appropriate. The detail explanation of this argument is derived from the macro-economic model of Flemming-Mundel for open economy.

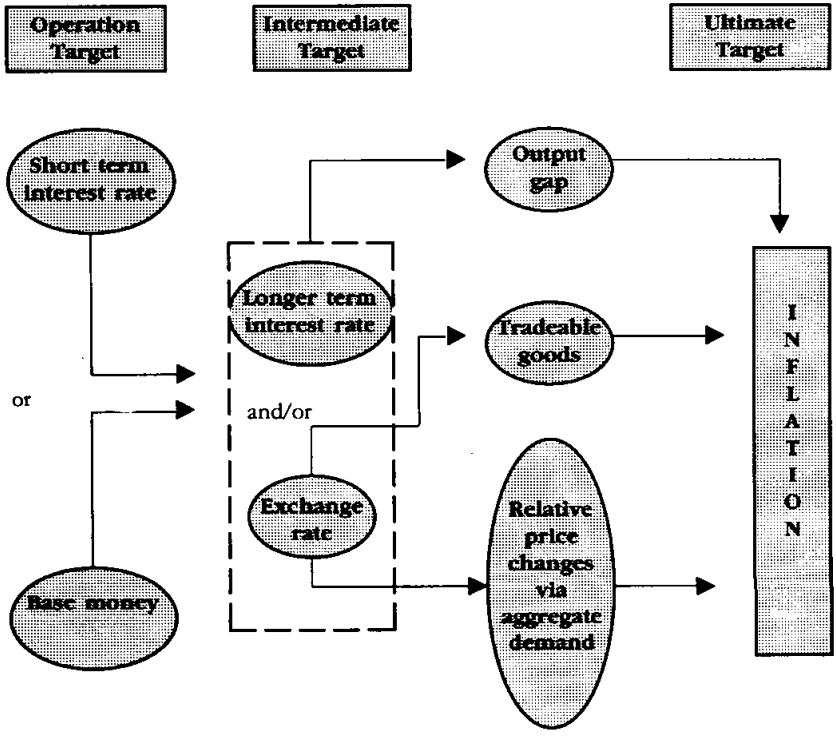
a. Monetary Policy under Flexible Exchange Rate and High Capital Mobility

The effectiveness of monetary policy under flexible exchange rate can be explained relying on the model of Flemming and Mundel. The model assumes that under flexible exchange rate regime, overall balance of payment (BOP) is always in equilibrium position. This means that current account balance equals to capital account balance. Overall BOP surplus tends to appreciate domestic currency, increasing import and reducing export as trade competitiveness worsens. Current account balance, then, deteriorates until overall BOP reaches equilibrium. Overall BOP deficit, on the other hand, tends to depreciate domestic currency so that import decrease, export raise as competitiveness picking up. Current account balance is improved until overall BOP achieves equilibrium. This model puts emphasis on current account balance as adjuster mechanism, leaving international reserves constant. Moreover, the model assumes that capital mobility is a function of interest rate differential between domestic and foreign rate. This interest rate differential may be calculated as covered interest rate parity differential, considering depreciation expectation and risk premium, and uncovered interest rate parity.

Under flexible exchange rate regime, monetary policy is more effective. Contractive monetary policy pushes domestic interest rate up and domestic currency tends to appreciate as demand for foreign currency decreases while demand for domestic currency increases. The appreciation of exchange rate tends to deteriorate current account balance as it stimulates rise in import and reduction in export. Given capital account balance, the overall BOP now is in deficit. The rise in interest rate attracts capital inflows, improving capital accounts so that overall BOP reaches equilibrium.

The transmission mechanism of monetary policy to price is channeled through interest rate and exchange rate. The appreciation reduces costs of production, aggregate supply curve shifts to the rightward, so that domestic prices go down. A higher interest rate reduces demand for money of investment and consumption, aggregate demand curve shifts the leftward, resulting a lower domestic prices. Hence, the contraction of monetary policy under flexible exchange rate regime theoretically produces lower output level, higher rate of interest, appreciated domestic currency and lower inflation rate.

Chart 1.1: Transmission Mechanism of Monetary Policy Under Flexible Exchange Rate Regime



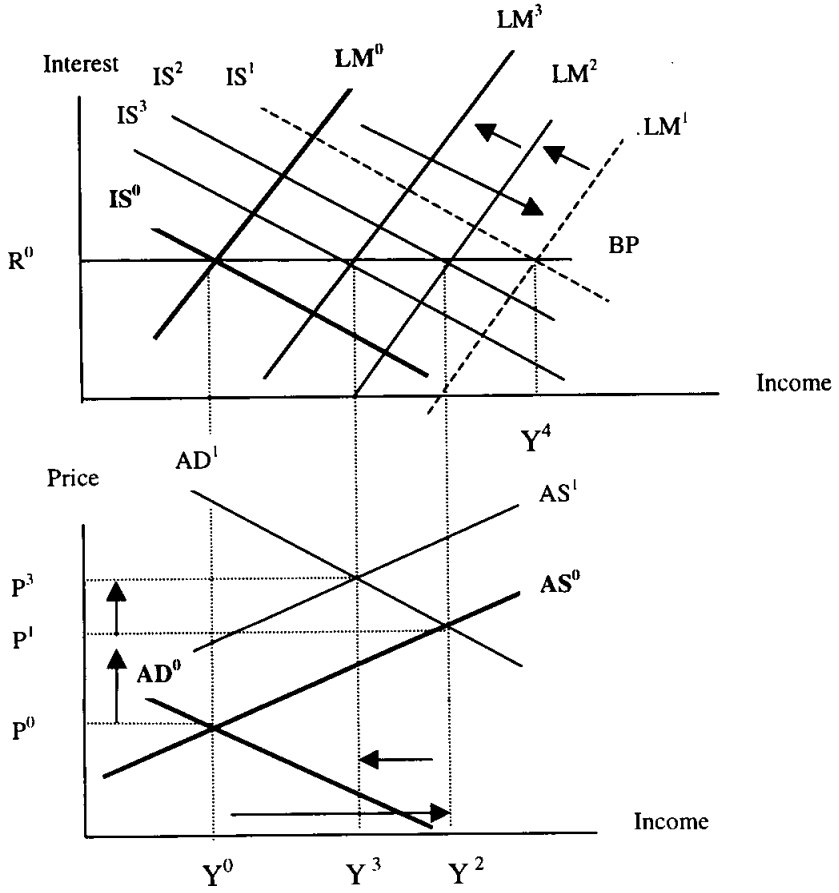
On the contrary, the expansion of monetary policy reduces domestic interest rate (LM curve shifts rightward to LM^2) and depreciates domestic currency due to the raising demand for foreign currency and the declining demand for domestic currency. The depreciation of exchange rate tends to improve current account balance as it discourages import and to stimulate export (IS curve shifts rightward to IS^2). Given capital account balance, the overall BOP now is in surplus. The decline interest rate would stimulate investment and raise income to Y^2. By assuming perfect capital mobility, the decline in interest rate promotes capital outflows, worsening capital accounts so that overall BOP reaches equilibrium and interest rate returns to the initial level (R^0).

The transmission mechanism of monetary policy to price is channeled through interest rate and exchange rate. A lower interest rate boosts demand for money of investment and consumption, aggregate demand curve shifts the rightward to AD^1, resulting a higher domestic price to P^1. The increasing domestic prices may push wage rate up, so that escalating even further inflationary pressures. Higher prices as consequence of monetary expansion, decrease real money balance (LM curve shifts leftward to LM^3) and worsen real effective exchange rate as measure of domestic competitiveness (IS curve shifts to IS^3), given nominal exchange rate and the main trading partners' inflation rate. The temporary real income equilibrium is at Y^3.

The depreciation aggravates cost of production, aggregate supply curve shifts leftward to AS^1, so that domestic prices go up to P^2. This imported inflation would also decrease even further real money balance (LM curve shifts leftward to LM^4) and worsen real effective exchange rate as measure of domestic competitiveness (IS curve shifts to IS^4), given nominal exchange rate and the main trading partners' inflation rate. The final real income equilibrium is at Y^4

Hence, the expansion of monetary policy under flexible exchange rate regime theoretically produces higher output level, weakened domestic currency and higher inflation rate. The interest rate will depend on the degree of capital mobility. The more mobile the capital is, the more possibility the interest rate moves toward initial level so that overall BOP is in equilibrium.

Chart 1.2: Monetary Policy under Flexible Exchange Rate and Perfect Capital Mobility

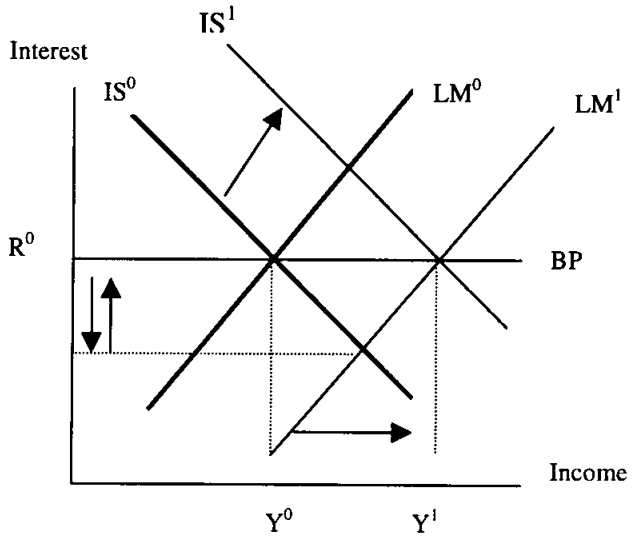


b. Fiscal Policy under Fixed Exchange Rate and High Capital Mobility

The expansion of fiscal policy obliges central bank to raise domestic interest rate in a way of sterilizing expansionary fiscal expenditures. All fiscal expansion, normally in the form of autonomous expenditures, may be sterilized in proper time through the effective coordination between monetary and fiscal policy. This is so because central bank has to maintain targets of money supply and fixed exchange rate in achieving price stability. Because of fixed exchange rate, there is no

impact on overall BOP as exchange rate is not sensitive to export and import volume. Fiscal expansion may generate crowding out private investment but this depends on the interest elasticity with respect to private investment. The more elastic the interest rate, the more crowding out the fiscal expansion would be. Under perfect capital mobility assumption, the impact on crowding out would be offset by capital inflows as a result of a rise in interest rate, thus, generates overall BOP surplus (see chart 2). This surplus subsequently puts pressures on domestic currency to appreciate. To maintain fixed exchange rate, central bank has to intervene in the foreign exchange market so that official international reserves augment and domestic money supply increases. Under fixed exchange rate regime, central bank does not need to sterilize further the monetary impacts of capital inflows because central bank has only a single target, namely, exchange rate. This is a type of monetary operation framework under Currency Board Arrangement such as in Argentina and Bulgaria. Fiscal policy under fixed exchange rate regime, then, is effective in raising output. However, if the elasticity of investment with respect to interest rate is higher than the elasticity of capital flows to interest rate, the fiscal policy is less effective to raise output. Also, the less mobile the capital flows is, the less effective the fiscal policy.

Chart 1.3: Fiscal Expansion Under Fixed Exchange Rate and Perfect Capital Mobility



The capacity of central bank to sterilize capital inflows depends on the elasticity of capital flows with respect to domestic interest rate, for given foreign interest rate. The greater the elasticity is, the less the capacity of central bank to sterilize capital inflows, the more effective the fiscal policy to increase output. The elasticity is often called offset coefficient: when central bank raises interest rate to sterilize domestic monetary shocks, it also attracts capital inflows. The higher the offset coefficient is, the less effective the monetary policy to maintain money supply target.

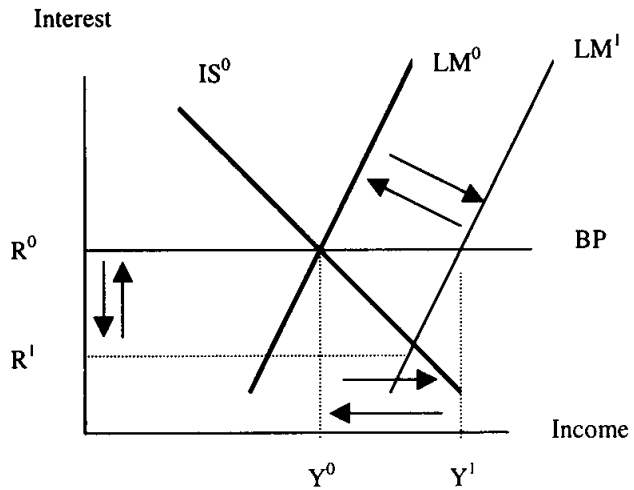
The transmission mechanism of fiscal policy under fixed exchange rate regime to price is channeled only through interest rate as exchange rate is fixed. A higher interest rate, as result of central bank sterilization policy, lessens demand for money for private investment and private consumption. While fiscal expansion tends to boost mostly government investment and consumption. The net impact of fiscal expansion on prices, then, depends on the elasticity private investment to interest rate and the size of the autonomous expansion. The higher the elasticity is, the less effective the fiscal policy to affect output, the less the impacts on prices through aggregate demand. The larger proportion of government investment to GDP is, the more effective the fiscal policy to affect output, the more impacts on prices through aggregate demand.

5. The Nature of Shocks in the Economy

The choice of exchange rate regime may be influenced by type of shocks in the economy whether they are domestic monetary shock generating in the money market (monetary or fiscal expansion) or real shock generating in goods market (rise international interest rate, deterioration of terms of trade). This argument says that if the shock were domestic monetary ones, it would be more effective to maintain fixed exchange rate to stabilize output (see chart 3). Under fixed exchange rate, domestic monetary shock, such as monetary expansion, would reduce interest rate, then, increase investment and real income (LM curve shifts rightward to LM^1). In the presence of perfect capital mobility, it tends to encourage capital outflows and result in deficit overall BOP, assuming the initial overall BOP is in equilibrium. Because exchange rate has to be fixed, the deficits have to be financed through international reserves. Hence, the reserves and money supply decrease, and LM curve backs LM^0, output backs to initial level. Hence, under more

capital mobility, fixed exchange rate regime is effective in stabilizing output against domestic shocks. However, if the elasticity of investment with respect to interest rate is higher than the elasticity of capital flows to interest rate, fixed exchange rate regime is less effective to stabilize output and domestic output tends to destabilize.

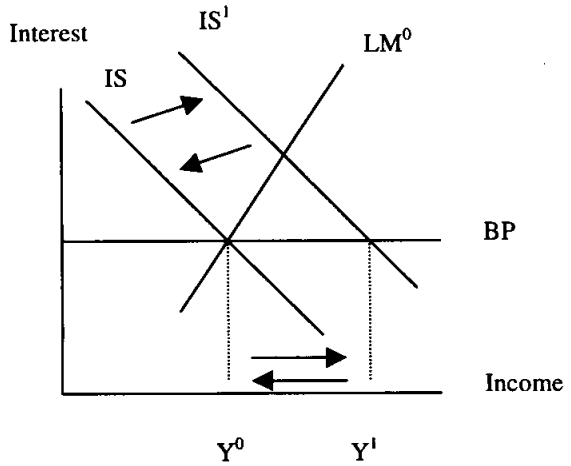
Chart 1.4: Domestic Monetary Shock Under Fixed Exchange Rate and Perfect Capital Mobility



If the shocks were real, originating from external shocks, such as changes international interest rate or international commodity prices, flexible exchange rate regime would be the most appropriate policy to stabilize output. A rise in external demand associated with expansionary foreign monetary expansion tends to reduce foreign interest rate. Increase in foreign demand would raise exports earning and generate result in surplus overall BOP assuming the initial overall BOP is in equilibrium. Moreover, in the presence of capital mobility the decline in foreign interest rate, given domestic interest rate, would attract capital inflows and, hence, boosting more surplus in overall BOP. However, this depends on how sensitive is domestic interest rate to foreign interest rate. The more sensitive the domestic interest rate to foreign interest rate, the less the impact of foreign interest rate changes to capital flows as interest rate differential tends to be maintained. Under flexible exchange rate, the surplus overall BOP tends to appreciate

domestic currency, raising import and reducing export so that overall BOP backs to equilibrium and stabilize output. Central bank can hasten the process output stabilization through sterilizing capital inflows generated from the bigger interest rate differential. The combination of flexible exchange rate policy and monetary sterilization policy can accelerate the process of output stabilization against external shocks.

Chart1.5: Foreign Monetary Shock Under Flexible Exchange Rate and Perfect Capital Mobility



If the nature of external shocks originates from foreign fiscal expansion, the increase in foreign demand would be offset by the increase of foreign interest rate, so that the net increase of foreign demand become smaller. Subsequently, domestic interest rate tends to rise, assuming that domestic interest rate is very sensitive to foreign interest rate, so that interest rate differential is maintained (rise in foreign interest rate would be followed by a rice domestic interest rate). If, the interest elasticity to domestic aggregate demand is high, the net impact of such external shocks on domestic output may be negative. Under flexible exchange rate regime such external shocks can be countered through exchange rate depreciation so that export increase and output stabilized. A similar line of assumption, under fixed exchange rate, domestic output would decrease.

Thus, if type of shocks is more external, flexible exchange rate is more effective in stabilizing output as exchange rate can properly function as adjuster mechanism. On the other hand, if the shocks are more domestic monetary ones, fixed exchange rate is more effective to stabilize output, as the shocks would be offset by changing international reserves.

II. Exchange Rate Regimes

Based on the exchange rate arrangements practices recorded by the IMF's annual report 1996-1999, there is a tendency to move toward a more flexible exchange rate. In 1999, there were 101 countries or 55 percent of total have been pursuing more flexible exchange arrangements and only around 36 percent following pegged exchange rate regime. During 1997-1999, after the crisis, countries pursuing pegged exchange rate regime, pegged to basket of currencies in particular, tended to decline, and moved toward more flexible exchange rate regime, particularly managed floating exchange rate regime. Countries experiencing deep currency crisis and high degree of speculative attacks had shifted their regime from managed floating into independent exchange rate regime, such as the United Kingdom in 1992, Mexico in 1994, some SEACEN countries (Indonesia, Philippines, South Korea and Thailand) in 1997, and Brazil in 1999.

Table 1.6: The Development of Exchange Rate Regimes for 184 Countries

Exchange Rate Regime	1996		1997		1998		1999	
	Country	Percent	Country	Percent	Country	Percent	Country	Percent
Peg	68	37.0	69	37.5	66	35.9	65	35.3
- Single currency	46	25.0	47	25.5	48	26.1	47	25.5
- Basket of currencies	22	12.0	22	12.0	18	9.8	18	9.8
Flexibility Limited	13	7.1	16	8.7	17	9.2	17	9.2
More Flexible	99	53.8	99	53.8	101	54.9	102	55.4
- Managed	46	25.0	48	26.1	55	29.9	51	27.7
- Independent	53	28.8	51	27.7	46	25.0	51	27.7
Total	180	97.8	184	100.0	184	100.0	184	100.0

Source: The IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, 1996-99.

Based on the 1996 to 1998 IMF Annual Reports on Exchange Arrangements and Exchange Restrictions, exchange rate regimes can be classified into 3 main categories, i.e., pegged, flexibility-limited, and more flexible arrangements.

1. Pegged Exchange Rate Regime

Under this regime, the currency is pegged to a single currency or a composite/basket of currencies.

a. Pegged to a Single Currency

Under this regime, the currency is pegged to the US dollar or the French franc or any other single currency (such as the Australian dollar, Deutsche mark, Indian rupee, Italian lira, Portuguese escudo, Singapore dollar, or South African rand). The exchange rate is fixed to a single currency and the official buying and selling rates for other currencies are derived based on the cross rates for the currency concerned in the international market. However, few countries allow a very narrow margin of exchange rate fluctuations around the fixed relationship with the single currency. Under this regime, some countries such as Argentina, Brunei Darussalam, Bosnia and Herzegovina, Bulgaria, Estonia, Lithuania pegged their currency under Currency Board Arrangement and they usually guarantee unrestricted convertibility of their currencies to a single currency concerned.

b. Pegged to a Basket of Currencies

In a composite pegged exchange rate regime, the currency is normally pegged to a basket of currencies of the main trading partners and or tourism partners. However, countries like Jordan, Latvia and Myanmar pegged their currencies to the SDR. The exchange rate is determined on the basis of a weighted basket of currencies. The central bank may intervene in the foreign exchange market to maintain the exchange rate. The central bank of Cyprus, Iceland, Myanmar, Samoa, Slovak Republic, and Vanuatu have the authorities to make discretionary exchange rate adjustment against the currency basket within certain margin from the fixed relationship.

2. Flexibility-Limited Regime

This regime generally refers to the countries participating in the Exchange Rate Mechanism (ERM) in the European Monetary System (EMS, comprising 13 countries: Austria, Belgium, Denmark, Finland, French, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Portugal, and Spain). Under the ERM, the spot exchange rate among the participants is maintained within the margin of 15 percent above and below the cross rates based on the central rates expressed in ECU (European currency unit). Netherlands and Germany have a special bilateral arrangement to maintain their exchange rate movements within a very narrow fluctuation band of +/-2.25 percent. This arrangement implies that the Deutsche Bundesbank stands ready to buy or sell the currencies of the other participating states in unlimited amounts at specific intervention rates. In principle, interventions within the EMS are made in participating currencies but may also take place in third currencies, such as the US dollar. Participants in the EMS do not maintain exchange rates for other currencies within fixed limits but do intervene from time to time to smooth out erratic fluctuations in exchange rates.

Countries like Bahrain, Qatar and the United Arab Emirates limit their exchange rate flexibility with respect to a single currency. Their exchange rate movements have a fixed relationship with the SDR within the margin of +/- 7.25 percent of the official reference exchange rate determined by the central bank. The central bank sets the daily rate for the buying and selling rates of the US dollar as the intervention currency and as the reference rate for commercial bank transactions.

3. Flexible Exchange Rate Regime

A flexible exchange rate can be either a managed floating exchange rate or an independent floating exchange rate.

a. Managed Floating Exchange Rate Regime

Under this regime, exchange rate is determined by the market and is allowed to fluctuate in a flexible manner within a certain band. The band is set to a certain percentage point around the mid-point. The mid-point rate or so-called reference rate is calculated as either a weighted average rate of foreign exchange transactions during the

previous day's trading or as exchange rate annual projection. The band can be adjusted in the light of development in inter-bank and parallel foreign exchange markets and of the reflection of annual difference between domestic inflation and the projected inflation of trading partner. The band is normally announced to public. Sometimes authorities may also impose the maximum spread between buying and selling rates or the maximum difference between official and inter-bank exchange rate. The intervention policy is limited to smooth out short-term fluctuations in the exchange rate and with consideration of international reserves target. In doing this, central bank may participate in the foreign exchange market as a net buyer and seller of the intervention currency, normally the US dollar.

The exchange rate can be set either with regard to a single currency or a basket of currencies. In the case of single-currency managed floating, the official exchange rate can be determined using the previous day's average market rate, while other official rates are determined on the basis of the cross rate for, normally, the US dollar and other active currencies in the international market. On the other hand, in a managed floating regime based on a basket of currencies i.e. Poland, Solomon Islands, Israel, Hungary, Chile, the exchange rate is determined on the basis of trade-weighted basket of trading partner currencies in the inter-bank foreign exchange market.

The central bank may publish the daily rate or weekly averaged rates of some selected currencies for customs valuation, accounting and taxation purposes as well as for government transactions. Commercial banks, licensed foreign exchange houses, special financial institutions, authorized institutions, post, telephone, and telegraphic office may set their own exchange rates according to market conditions.

b. Independent Floating Exchange Rate Regime

Under this regime, exchange rate is determined on the basis of supply and demand in the inter-bank foreign exchange market. However, some countries, such as Mongolia, Papua New Guinea, Zambia, and Zimbabwe may still limit spread between buying and selling rates for commercial banks. Central bank may quote official rates or indicative rates on the basis of the weighted average rate in the foreign exchange markets on the previous day. This indicative rate is used for certain purposes, such as for customs valuation, accounting and taxa-

tion purposes as well as for government transactions. Commercial banks may also quote buying and selling rates for other currencies based on the buying and selling rates of the dollar in exchange markets abroad.

The authorities may intervene at their discretion to moderate undue fluctuations in the exchange rate due to, for instance, seasonal changes in demand and supply conditions, as well as to speculative capital flows. In this regime, a central bank, such as Bank of Mexico, may hold monthly auctions of options, giving financial institutions the right to sell US dollar to central bank in exchange for domestic currency. The options, which are valid for a one-month period, can be exercised at the discretion of the holders, provided that the rate of exchange is no more depreciated than the average rate over the preceding 20 working days. The central bank may conduct a foreign exchange market review session on the last working day of each week with all participations in foreign exchange trading.

Chapter Two

OVERVIEW OF EXCHANGE RATE REGIMES IN THE SEACEN COUNTRIES

I. The Overview of Exchange Rate Regimes in SEACEN Countries: Before June 1997 Crises

Before the crises, there had been a general trend in the SEACEN countries to gradually move toward more flexible exchange rate regime, although the timing and reasons for the movement varied amongst countries. Until June 1997, eight of 11 countries had pursued more flexible exchange rate regime, whereas 3 of them had pursued pegged exchange rate regime to basket of currencies (Myanmar, Nepal and Thailand), and none of them pegged to a single currency. Under more flexible exchange rate regimes, managed floating seemed to be the most preferred regime during the pre-crises period, and only four countries had followed independent floating exchange rate regime, namely Mongolia, Taiwan, Malaysia and the Philippines.

Table 2.1: The Exchange Rate Regimes in SEACEN Countries Before Crises: Position as June 1997

No.	Fixed Regime		FLexible Regime	
	Single	**Basket**	**Managed**	**Independent**
1		Nepal	Singapore	Philippines
2		Thailand	South Korea	Mongolia
3		Myanmar	Sri Lanka	Malaysia
4			Indonesia	Taiwan
Total	0	3	4	4

Sources: Various papers from individual countries.

1. The Movement from Single to Basket Peg Currencies Regime: Before Crises

Sri Lanka had moved from single to basket currencies peg system had been in May 1976, but only in very short time for 19 months, followed by Korea, Nepal and Thailand. Nepal had implemented the basket currencies peg system since for 16 years till now, Thailand for 13 years and Korea for 10 years. Under the Bretton Woods System, **Sri Lanka** had pursued a fixed exchange rate system until May 1976, mostly pegged to the British pound sterling. However, following the suspension of the US dollar convertibility into gold in August 1971, the Sri Lanka rupee was pegged to the US dollar since 6 November 1971. As the Bretton Woods fixed exchange rate system began to collapse and the pound sterling was floated in June 1972, the rupee was re-linked to the pound sterling from 10 July 1972. Afterward, in May 1976 the Sri Lanka Authority decided to de-link the rupee from the pound sterling and to determine the exchange rate with reference to an appropriately weighted basket of currencies. This step was aimed at insulating the rupee from random events abroad from which, under the previous exchange rate regime tended to be transmitted to Sri Lanka via linked between the rupee and the pound sterling. With the use of a currency basket in the determination of the exchange rate, there was much greater scope for the effects of underlying trends on the Sri Lanka economy to be represented in Sri Lanka's exchange rates vis-a-vis other currencies.

Table 2.2: The Movement From Single Peg to Basket Peg Exchange Rate Regimes In SEACEN Countries: Before Crises

No.	SEACEN Members	Exchanged Rate Regimes		Year
		Single	Basket	
1	Central Bank of Sri Lanka	1950-May 1976	May 1976 - Nov. 1977	1.5
2	Bank of Korea	1945-March 1980	Mar. 1980 - Mar. 1990	10
3	Nepal Rastra Bank	1956-June 1983	Jun. 1983 - Now	16
4	Bank of Thailand	1963-Nov. 1984	Nov. 1984 - July 1997	12.5

Sources: Various papers from individual country.

Until March 1980 **South Korea** government adopted a single currency peg system. Due to the international monetary turbulence in 1970s and the oil shocks in 1973, the Korean won had been devalued three times. This devaluation was intended to support the export led economic growth policy and to correct the real exchange rate misalignment and the current account deficits. Price competitiveness through devaluation was a high priority in achieving the goal of export promotion. At the same time, the expansive monetary and fiscal policies carried out for an ambition economic plan accelerated inflation, which counteracted the price effect of devaluation. From 1974 to January 1980 the exchange rate was stable through a heavy intervention by the government in the foreign exchange market.

The single currency peg system had some problems: first, since the value of the won was tied only to the value of the US dollar, the won exchange rates vis-a-vis other currencies were often miss-aligned and no corrections were made in time. Second, the exchange rate was changed in a highly discrete manner and misdirected the allocation of resources. Third, the high domestic inflation was not properly incorporated in the exchange rate, and this hampered the price competitiveness of Korean exports. In order to cope with those problems and make the exchange rate better reflect the market forces, in March 1980, the Korean government adopted the multiple currency basket peg (MCBP). The exchange rate under this system was determined as a weighted average between the SDR and own basket currencies plus alpha. This alpha is a mechanism at which the authorities have used to take account of interest rate differential, the prospect of trade balance and other factors to achieve the policy goals. The content of alpha was never announced, and hence the extent of arbitrariness was never known. Moreover, the authorities did not announce the weights between the SDR basket and the own basket. This was the basis on which Korea was accused of manipulating the foreign exchange rate by the US government. This system, therefore, did not serve the purpose well because of the rigid way of calculating the exchange rate and of significant arbitrary elements built-in the system of exchange rate determination. Under the MCBP the Korean won depreciated on 25 December 1985 and the appreciated on 28 February 1990.

Since **Nepal** Rastra Bank (NRB) established in 1956, the dual currency system was abolished to ensure the sole circulation of Nepalese Rupee (NRe) in place of Indian rupee. Since then until June 1983, the

exchange rate was pegged to Indian rupee. During this period the NRB had devalued the NRe against the Ire three times: 24.8 percent in December 1967, 2.9 percent in December 1971, and 4 percent in March 1978. Since 1962 the NRB started fixing the NRe-US dollar exchange rate and there had been four discrete devaluation of the NRe against the US dollar until June 1983 when the currency basket system was introduced. The introduction of currency basket system is to bring about flexibility in the exchange rate and make it more realistic in a way of absorbing the external and internal shocks in the economy. The basket contained currencies of seven major trading partners with the highest (more than 50 percent) weight of the Indian rupee in the basket. Other currencies in the basket included Japanese Yen, Korean Won, German Mark, Singapore dollar and the UK pound sterling.

The currency basket system was not fully operative. There were three discrete devaluations with convertible currencies including US dollar after June 1983. The 14.7 percent devaluation in 1985 was accentuated by the weak economic fundamentals: low economic growth, soaring prices, sluggish exports, high import and deteriorating current account deficits. Along with this devaluation, an effective implementation of the currency basket system for exchange rate determination of all currencies including Indian rupee (IRe) was announced. The two devaluations in 1991, more than 50 percent, were prompted by discrete devaluations of Indian rupee against convertible currencies at which then followed by the Nepalese authorities' decision to maintain the NRe-IRe exchange rate at the prevailing level. After 1991, there has been no discrete adjustment in the exchange rate of the NRe against convertible currencies and with the introduction of full convertibility of the NRe in the current account, the exchange rate of NRe vis-_-vis convertible currencies is market determined. The exchange rate against Indian rupee remained unchanged until 1993 when a discrete revaluation was done. The reason for not making adjustment in the NRe-IRe exchange rate was the depreciation of IRe against US dollar and no misalignment in the real exchange rate of NRe with Indian rupee due to the similar price movement in Indian and Nepal.

Before November 1984, the exchange rate of **Thailand** baht was effectively pegged to the US dollar. Under the Bretton Woods system, Thailand had adjusted the bath for number of times to maintain its values against the US dollar. When the Bretton Woods System began to collapse in 1973 and the authorities of major countries allowed their

currencies to float, the value of the US dollar began to depreciate. The bath, then, tended to be under-valued and to make the exchange rates between bath and other major currencies more realistic, the bath was adjusted upward (appreciated) against the US dollar on 15 July 1973.

Following the collapse of the Bretton Woods System and the Thailand authorities took initiative to amend the Currency Act 1958 to practically allow all kinds of exchange rate arrangements other than the par values system. Then since 1 November 1978, Thailand implemented more flexible exchange rate arrangement under the so-called Daily Fixing System. Under this system, exchange rate was fixed daily in deliberation with commercial banks in order to make consistent with the market condition as much as possible. Every morning, the representatives of all commercial banks were asked to make bids and offers to be matched at the meeting under the chairmanship of the representative of the Exchange Equalization Fund (EEF). The EEF was in the position to intervene to close the gap between demand and supply and/or to steer the exchange rate in its targeted direction. Due to speculative attacks, the Bank of Thailand (BOT) eventually had to devalue the value pot the bath on 15 July 1981 for about 8.7 percent. The EEF then suspended the Daily Fixing System and resumed fixing the rate by itself. In fact, the exchange rate was in practice re-pegged to the US dollar until November 1984.

In 1984 the US dollar was rising rapidly, partly induced by the US tight monetary policy relative to other industrial economies. Under peg exchange rate regime, Thailand had to appreciate its currency accordingly. This appreciation encouraged import and discouraged export. During 1983-1984, imports of goods and services increased rapidly while exports lagged far behind. The trade deficits reached a historical record of 89.2 billion baths while international reserves declined to a worrying level. From domestic front, the monetary expansion and budget deficits had worsened the domestic condition. Due to both external and internal factors, the authorities had to adopt tight monetary and fiscal policies throughout 1984. Further, on 5 November 1984, the authorities also decided to devalue the bath substantially by 14.8 percent and alter the exchange rate regime to a basket of currency system. Under this system, the bath was fixed daily, but strictly to a basket of currencies of the major trading partners.

Like the dollar peg system, the EEF, under the basket peg regime, stood ready to buy or sell US dollar against the bath without limits with local commercial banks at the daily announced mid rate plus or minus 0.2 bath. Thus, the BOT's exchange intervention was, in effect, routinely activated at the request of commercial banks. The exchange rate peg served as the nominal anchor for monetary policy. Its relative stability and predictability had attracted large short-term capital inflows to the corporate sector without pressing needs for it to hedge the exchange rate exposure. In September 1996, due increasing market pressure the BOT adopted a more pro-active stance in stabilizing the exchange rate by intervening directly in the foreign exchange market, in parallel to the normal EEF operations. The pressure on the bath intensified in December 1996, linked to deteriorating economic fundamental, looming problems in the financial sector, and widespread rumor of currency devaluation. Foreign investor confidence was shaken, prompting withdrawal of investments out of Thailand. However, successful stabilization of the bath through direct market intervention in the face of large capital outflows, coupled with announcement of substantial budget cut, helped restore foreign investor's confidence somewhat as envisaged in sizeable inflows in early January 1997. This basket peg exchange rate regime had been employed until June 1997, in which Thailand moved to independent floating exchange rate regime.

2. The Movement from Relatively Fixed to Managed Floating Exchange Rate Regime: Before Crises

The international monetary crises occurred in 1970-1973 had given some implications on the exchange rate policies in the SEACEN countries. This period were characterized by unsettling and destabilizing monetary conditions causing turbulent swings in the world economy. The US dollar was under intense speculative attacks in international currency market causing high inflation and balance of payment problems in the US economy. In response to that, the US suspended its dollar's convertibility into gold on 15 August 1971. The major industrial economies, then, realigned their currencies under the Smithsonian Agreement in December 1991. The pound sterling came under speculative attacks in 1972 and, then, it was allowed to float on 23 June 1972 and the United Kingdom authorities dismantled the Sterling Area Exchange Arrangements. Furthermore, the US dollar was devalued for the second time on 12 February 1973 by 10 percent, of which had culmi-

nated the collapse of the Bretton Woods system of fixed exchange rates.

Because of pegged exchange rate regime during the period, the turbulence of international currency markets had direct affects the domestic monetary conditions in some SEACEN countries at which, in turn, caused high inflation and high inflationary expectations. The movement of SEACEN countries toward a managed floating exchange rate regime was initiated by the Philippines since January 1970, followed by Singapore, Malaysia, Sri Lanka, Indonesia, Taiwan and Korea. Most SEACEN countries had pursued managed floating exchange rate system for quite many years. Singapore has implemented managed floating regime for 26 years till today, whereas Malaysia, Sri Lanka, Indonesia, Taiwan and Philippines had pursued the regime from 15-25 years.

Table 2.3: The Movement from Fixed to Managed Floating Exchange Rate Regime in SEACEN Countries: Before Crises

No.	SEACEN Members	Fixed		Managed Floating	Year
		Single	Basket		
1	Bangko Sent. ng Pilipinas	1940-Jan '70		Jan '70 - Dec '84	15
2	Mon. Aut. Of Singapore	1970-Jun '73		Jun'73 - now	26
3	Bank Negara Malaysia	1957-Jun '73		Jun'73 - Sep '98	25.5
4	C. Bank of Sri Lanka	1950-May '76	May'76-Nov'77	Nov'77 - Now	22
5	Bank Indonesia	1964-Nov '78		Nov'78 - Aug '97	19
6	C. Bank of China, Taipei	1961-Jan '79		Jan'79 - Apr '98	19
7	Bank of Korea	1945-Mar '80	Mar'80-Mar'90	Mar'90 - Dec '97	7

Sources: various papers from individual country.

During the early 1970s, the **Philippines** had experienced high inflation, low international reserves and heavy maturing foreign obligations that brought tremendous pressure on exchange rate. As part of the stabilization measures adopted, the peso was allowed to float under managed floating exchange rate regime on 21 February 1970, about three years before the breakdown of the Bretton Woods System, earlier than any other SEACEN countries. This move was occasioned by the

realignment of the major world currencies and the general adoption of the flexible exchange rate system in place of pegged exchange rate system as a solution to the international liquidity crises. The decision to float was based more on the need to remove the heat off the exchange rate that was continually undergoing severe pressures from high inflation, increased foreign exchange demand for debt servicing, and the need for realignment with the general trend towards flexible exchange rate regime. Moreover, the low country's reserves had forced the government to allow the exchange rate moved more freely to lessen the pressure in the external sector. Therefore, the factors underlying the choice of the exchange rate regime in this country might not be the size of the economy, the degree of openness, the depth of financial market and the pattern of external trade discussed earlier.

Under the managed floating exchange rate system, the central bank had to intervene when needed to maintain orderly conditions in the exchange market and to reduce short-term volatility. In addition, the BSP observed bands around the guiding rate within which the peso was permitted to float. Before April 1972 the band was 0.75 percent above and 1 percent below the guiding rate. After this date, the band was widened to 4.5 percent below and above the guiding rate. In 1981, as the external financing became more difficult with international economy slowdown and the mounting debt problem of the less developed countries, the BSP opted to rely on reserves draw-down than on substantial realignment of the exchange rate. Moreover, the foreign exchange market was suspended on 14 October 1983 in view of the highly destabilizing balance of payments crises started in the last quarter 1983. During the managed floating period, the peso had been devalued substantially four times: 64.2 percent in 1970, 11.8 percent in 1982, 52.7 percent in 1983 and 41.1 percent in 1984.

Several policy measures highlighted the foreign exchange management of the BSP at the onset of the crises period. First, the peso-dollar rate was adjusted to dampen import demand and improve the competitiveness of the Philippines exports. Second, interest payments on foreign loan were kept current as much possible. All foreign exchange receipts were pooled for allocation to industries according to priority system with all imports of export industries and vital products at the top of the list. On 15 October 1984, the central bank implemented the open foreign exchange trading system by allowing commercial banks to keep their foreign exchange receipts and trade among themselves,

constituting a process of exchange rate determination. This liberal directive led to the narrowing of the differential between the official and the parallel or black market exchange rates and the stabilization of the Philippines peso after two- year depreciation. Since December 1984 till now, the Philippines' foreign exchange system has been classified by the IMF under the independent float regime.

Following the adoption of more flexible exchange rate system, the Philippines government further removed restrictions on foreign trade and investment. For instance, on 1 May 1970 the 80 percent surrender requirement was replaced by an export tax and on 21 September 1972 immigration policies for potential investors were relaxed, the rules for repatriation were liberalized, the tariff structure was revised and the number of tariff were trimmed down. The shift to managed floating regime accompanied by the gradual removal of exchange and trade controls was an effort to rectify the distortion in the structure of relative prices.

Monetary Authority of **Singapore** had responded to international monetary crises by tightening monetary policy: raising the reserve ratio, imposing special deposits requirements, raising interest rates and engaging in moral suasion on the banks to restrain credit growth. As the external values of Singapore dollar depreciated in line with a weakening US currency, imported inflation crept up. Expectations of revaluations of the Singapore dollar fuelled a heavy influx of speculative capital into Singapore, further aggravating inflationary pressures. Finally, on 20 June 1973, the Singapore dollar was allowed to float under managed floating regime. This helped to stem the inflow of speculative funds.

Oil price shocks in 1973 had surged inflation in Singapore reaching nearly 30 percent in the first-half of 1974 and at the same time the global economy was headed for a slowdown. Singapore faced the prospect of stagflation: combination between high inflation and low growth. In dealing with stagflation, MAS conducted tight monetary policy: imposed credit ceiling on banks and finance companies together with selective credit guidelines. With inflation moderating in the second-half of 1974, monetary policy was gradually eased to support growth. The period of 1976-79 was marked by sustained and healthy economic growth, against the background of low inflation. The conduct monetary policy was guided by variety of intermediate targets. MAS monitored the monetary base, interest rate, loan growth; the trade

weighted exchange rate of the Singapore dollar, as well as few important bilateral exchange rates. The Authority moved away from direct measures like changes in reserve requirements to credit guidelines instead, with the improvement in money market instruments over the years. MAS increasingly relied on operations in the foreign exchange and domestic money markets to influence liquidity and monetary conditions. The dismantling of the interest rate cartel in 1975 and liberalization of exchange controls in 1978 were consistent with this broader shift in emphasis away from direct controls.

During the period of 1980-84 there were second oil price shocks, rise in world commodity prices, and capital inflows particularly in 1980 and the rise in nominal wages which had raised domestic inflation, accelerated to 8.5 percent. Monetary policy, then, was tightened in response. For this reasons, in 1980 MAS shifted the focus of its monetary policy and began to emphasize managing the exchange rate as its principal policy instruments, instead of targeting money supply or interest rates. Underlying this shift in emphasis was a growing recognition of the significant role that exchange rate played in a small and open economy like Singapore. High import content of domestic expenditures meant that changes in world prices or the exchange rate had a powerful effect on domestic prices. Thus, changes in the exchange rate to offset changes in foreign price levels would have a significant influence on inflation in Singapore. Since the exchange rate has a sizeable effect on exports in the short run, and exports are the primary source of GDP growth, the exchange rate also has an influence on domestic costs. Maintaining a strong Singapore dollar was thus seen as the most effective way of keeping inflation low, thereby promoting the long run cost competitiveness of the economy.

In November 1977, **Sri Lanka** has introduced far reaching economic policy reforms shifting from inward looking strategy to outward looking development strategy. A series of economic policy measures aimed at creating an economy driven by market forces. The dual exchange rate system was abolished, exchange rate was unified, and a managed floating exchange rate regime wad adopted in November 1977. This was in sharp contrast to the previous exchange rate regime, under which the exchange rate was fixed and to a large extent overvalued with a negative impact on the competitiveness of domestic exports. Under managed floating exchange rate regime, the exchange rate is determined largely on the basis of market demand and supply

conditions. The exchange rate determination is also monitored on the basis of a large basket of 24 currencies of competitors and trading partners while also taking into underlying trends in the BOP and other macro indicators. This exchange rate system has the flexibility to allow the exchange rate according to underlying macro fundamentals while also giving due consideration to inflation. The movement was expected not only to insulate the domestic currency from unwarranted random events but also to maintain a realistic exchange rate closer to the true price to ensure the external competitiveness of domestic goods and services. The CBSL may intervene in the foreign exchange market to reduce excess volatility of rates with a band of 2 percent between buying and selling rates. The US dollar was made as intervention currency.

Restrictions on the current account were gradually removed. The tariff structure was rationalized and simplified and quantitative restrictions on imports were eliminated. Export licensing requirements and export duties were gradually removed while export industries were supported through granting generous incentives. Capital account in the BOP is still not opened and most of the capital outflows are still under control although steps are being taken to liberalize it. After liberalization, stabilization objectives were dominated in the monetary policy. The CBSL moved away from direct controls to market based tolls to implement monetary policy.

The Sri Lanka's economic fundamentals are relatively weak, on the fact of high inflation rate and budget deficit. The annual economic growth in Sri Lanka over the last five years was 5.6 percent on average. The year just prior to the crises (1996), Sri Lanka economy experienced a severe crisis due to the natural calamities, worsened by the high commitments on civil war and frequent terrorist attacks. In this year, inflation rate was 16 percent, current account deficit was 2.9 percent of GDP and investment ratio to GDP was 24 percent, budget deficit was 9 percent over GDP. Although the economic fundamentals of Sri Lanka were relatively weak, there were some redeeming features which resulted in insulate the Sri Lanka economy from short term sill over effects of the Asian currency crises. They were: the existing control on capital account, 75 percent of external debt stock were long term government borrowings and commercial banks were not allowed to borrow abroad.

Before 10 July 1978, Republic of China **Taipei** adopted fixed exchange rate regime pegged to the US dollar and at the same time implemented strict system foreign exchange control to maintain the balance of payment in equilibrium and to maintain financial stability. The value of the New Taiwan dollar expressed in the US dollar was set by the Ministry of Finance in consultation with the Central Bank of China. In response to the US dollar devaluations in 1971 and in 1973, the NT dollar was consequently also devalued against other currencies. Beginning in the second half of 1977, the US dollar significantly depreciated against major international currencies such Japanese yen and the Deutsche Mark and, because the NT dollar pegged to the US dollar, the ROC's exports greatly increased and the prices of imports greatly rose. This exerted an upward pressure on domestic prices. In the light of the changing of IMF's view in allowing member nations to freely choose their exchange rate system beginning in April 1978; and in order to alleviate inflationary pressure, to increase exchange rate flexibility between the NT dollar and other currencies, and to promote autonomy in terms of domestic monetary and fiscal policies; since 10 July 1978 the government abandon fixed exchange rate regime and, instead, adopted a managed floating exchange rate regime. After foreign exchange market was established in February 1979, the exchange rate was basically determined by the supply and demand for foreign exchange.

Between 1 February 1979 and 31 August 1982, the exchange rate of the New Taiwan dollar was determined through negotiation. The representative from central bank and five major authorized foreign exchange banks negotiated the to the foreign exchange supply and demand conditions in the bank customer market on the previous business day. From 3 March 1980 to 31 August 1982, however, the CBCT withdrew itself from the exchange rate negotiation process and the current day's buying and selling exchange rates were jointly determined by representatives of five major foreign exchange banks, and applied to all foreign exchange banks. The extent to which exchange rates could move from one day to the next was limited to within upper and lower bands of one percent of the average exchange rate for the previous day's trading. Beginning 12 August 1981 the bands were increased to plus/minus 2.25 percent.

The central exchange rate system was adopted since 1 September 1981 to 3 April 1989. In this system the current day's weighted average

exchange rate was determined by the foreign exchange transactions in the inter bank market served as the next day's central rate for transactions between bank and their customers. Daily fluctuations in the inter-bank rate were not permitted to exceed 2.25 percent of the central rate. The buying and selling rates could be negotiated between banks and their customers. Each authorized foreign exchange bank separately determined the buying and the selling exchange rates in the transactions with its customer in accordance with the central rate. Exchange rates between the NT dollar and other currencies continued to be determined by each authorized foreign exchange bank individually.

Although between 11 July 1978 and 14 July 1987 the ROC continued to implement foreign exchange control, the government started to relax foreign exchange control. Earners of foreign exchange would not required to surrender their earnings to the central bank. Instead they could open accounts in foreign currencies with authorized banks. The consistent increase of trade surplus in Taiwan had resulted in rapid build up foreign exchange reserves. At the same time, economic relations between Taiwan and other countries became increasingly close while financial conditions in the international economy were significantly transformed. Consequently, it became increasingly difficult for Taiwan's financial system to satisfy actual needs. In order to actively promote financial liberalization and internationalization in Taiwan, foreign exchange controls were significantly relaxed since 15 July 1987. Various measures that were implemented after foreign exchange controls were relaxed.

Before 15 November 1978, **Indonesia** pegged its currency to the US dollar and at the same time had implemented relatively strict foreign exchange control. The government determined the exchange rate of rupiah against US dollar. However, the control had been gradually reduced in 1967, 1970, and 1982 when Indonesia pursed free exchange control. As consequence of the international monetary crises in the early 1970's, the rupiah was devalued two times on 17 April 1970 and 23 August 1971. To counter the external shocks: the Dutch disease effect of the oil boom, the authorities devalued the rupiah by 50 percent against the US dollar and replaced the US dollar as its external anchor with undisclosed basket of major currencies and allowed the rupiah to float against basket of currencies since 15 November 1978. Since then Indonesia moved to a managed floating exchange rate

regime. The weight of the US dollar in the currency basket remains substantial.

During 1978-1986, the value of the rupee was relatively stable while the Indonesian money market was not sophisticated so that BI did not find difficulty to manage the exchange rate to achieve monetary target, except for June 1983 when the rupee was devalued by 40 percent and 31 percent in September 1986, as a response toward external shocks. During that period, the rupiah was more managed, rather than floated. The period 1987-1992, Indonesian economy was more opened domestic money market was more developed and more foreign capital flowed in. There was no devaluation in this period and the rupiah exchange rate was more floated to achieve its real value and to avoid the exchange rate misalignment, as shown at gradually depreciation.

During 1992 – 14 August 1997, Indonesia pursued the moving intervention band system or, so called, the crawling band in a way of stimulating the development of the domestic foreign exchange market, raising flexibility of rupiah exchange rate so that monetary policy could be conducted more effective, and preserving the official reserves as foreign exchange transactions would be fulfilled by supply and demand forces in the market itself. In 1992, Bank Indonesia set intervention band of 1 percent around the central rate. To increase rupiah flexibility, the intervention bank had been gradually widened several times: from 2 percent to 4 percent in June 1995, to 6 percent in December 1995, and to 8 percent in June 1996. Bank Indonesia had tried to defend the moving band system from the speculative attacks by widening the intervention band on 11 July 1997 from 8 percent to 12 percent. In normal case, the authorities sometimes target nominal depreciation of the rupiah against US dollar between 3 to 5 percent per annum. Provided that the system is supported by other polices, such an active policy to stabilize real exchange rate also helps avoid major macroeconomic crises even when the world economic environment proved inhospitable.

The **Korean** government adopted managed floating exchange rate regime on 2 March 1990 in an effort to let the exchange rate be determined by market forces, to avoid the pressure from the US government to liberalize the foreign exchange market, and to facilitate the external transactions through better functioning of the exchange rate. The movement of exchange rate regime was in part a response of

government officials to the changing international economic environments and was in part derived from the confidence that Korea had after experienced four consecutive years (1986-89) of trade surplus. This system, so-called market average rate system (MAR), is determined by a weighted average of exchange rate which transactions were made among the foreign exchange bank on the preceding business day, with the weight being transaction volume. The market average rate becomes the basic rate at which is the basis for other foreign exchange transactions.

3. The Movement to Independent Floating Exchange Rate Regime: Before Crises

Before the crises, only the Philippines, Malaysia, Taiwan and Mongolia had moved to independent floating exchange rate regime. The **Philippines** moved from managed floating to independent floating exchange rate regime since December 1984. The experience of the Philippines with independent float of the peso has coincided with the country's adjustment programs with the IMF consisting of two stand-by Arrangements 1984-86 and 1986-88) and the Extended Fund Facility (1989-91). One major concern in this financial program of the Philippines with the Fund is the broad objective of achieving external and internal balance in a climate of growth and price stability.

This movement to independent float exchange rate regime was overshadowed by the economic and financial crises in second half of 1983. With the deteriorating external environment of interest rates, low commodity prices and reduced access to loan capital, the Philippines found itself with low reserves, maturing external loans, and high external and fiscal imbalances. The country was forced to call a moratorium on its debts with foreign commercial banks. With foreign exchange scarcity, trading in the foreign exchange was suspended on 14 October 1983 and a system of direct exchange control was instituted ostensibly to ensure the availability of critical imports. Banks were required to sell 100 percent their exchange receipts to the central banks for pooling and allocation to finance vital imports and payments for principal and interest on multilateral development assistance loans and interest on bank loans.

The monetary authorities were fully conscious of the transitory nature of the controls in 1983 and 1984 given the BOP crises. As the

seriousness of the crises gradually wore off, the central bank also lifted most of the restrictions on foreign exchange transactions toward further liberalization of import and service payment and promoting the effectiveness of operational procedures in directing greater foreign exchange into banking system. The policy of liberalizing on trade and non-trade transactions is also indication of the serious efforts of the monetary authorities to allow the peso to seek its real value in the foreign exchange market.

Under this regime, the central bank has done away with the guiding rate in determining the international value of peso against the US dollar. Commercial banks are allowed to trade directly among themselves and to freely quote their buying and selling rates. Although there is much greater freedom among the market participants in the foreign exchange, the central bank has remained an important party on the floor. Under independent floating regime, central bank is not actually committed to any specific nominal rate. Its very participation in the market is expected to deliver a clear message to the banking community that any major depreciation would not materialize without any justifiable market fundamentals. Hence, any position contrary to market signals as perceived by the Bank would not prosper. The monetary authorities would occasionally intervene the market to guard against abrupt and large jumps in the exchange rate.

The market-oriented exchange rate is essential to the goal achieving a rapid and efficient adjustment of the country's external payments position. Relative price distortions and external imbalances appear to have been minimized and adjustments have been less disruptive. The independent float of the peso brought to focus the concern of the authorities to restore competitiveness in the course of addressing inflation by market determined adjustment in the exchange rate. Controls in past had been largely counter productive, likely contributing to the proliferation of the black-market for foreign exchange. The free float system would continue to encourage the expansion of the export sector and promote efficiently of domestic industries by exposing them to international competition.

The Philippines has relied on both exchange rate adjustment and changes in international reserves to cope with the requirements of external adjustment. When reserves were running low or when the emergency necessitated the re-institution of exchange controls, the

exchange rate had to be allowed to move more freely to lessen the pressure in the external sector. During the independent floating period, reserves were used to smoothen the movement of the exchange rate, but such movement was more freely allowed to take on the pressure building up in the external sector partly on account of fiscal imbalance. Under independent floating exchange rate regime, the peso went through three substantial downward adjustment: 1985, 1986 and 1990.

Since 1992 until before the crises, the Philippines economy had strengthened as the results of sustained implementation of broad-based structural reforms, including trade liberalization, tax reform, and rationalization of the government corporate sector. Combined with large capital inflows, the stock of gross reserves had accumulated to US$11.3 billion as end of June 1997. This favorable condition made possible a stable exchange rate. In moderating the undue appreciation of peso, the BSP had to intervene in the foreign exchange market, thus increasing domestic liquidity and inflationary pressures. However, relatively low inflation rates during the period lend support to the view that the BSP has been successful in striking a balance between economic growth and inflation.

In response to the turbulence of international currency, **Malaysia** widened further support rates for sterling to the full maximum of 1 percent following the suspension of convertibility of the US for gold in August 1971 and of 2.25 percent following the floating of the sterling in June 1972. As the United Kingdom is the most important trading partner, the floating of pound sterling and the imposition of exchange control measures on overseas Sterling Area by the British Government, led to uncertainty in the Malaysian economy. In containing these external fluctuations, in spite of tight monetary policy (increasing interest rate and restraining domestic credit), on 8 May 1973 BNM had executed financial reforms: (i) the Singapore dollar was no longer interchangeable at par with the ringgit, (ii) exchange control regulations were liberalized, including non-discrimination between Sterling area and Non-Sterling Area countries, (iii) the joint stock exchange of Malaysia and Singapore was abolished and a separate stock exchange for Malaysia was set up.

These measures helped ease the difficulties in monetary management of the Malaysian economy arising from the international crises and to increase the central bank's effectiveness to influence money and

credit and to provide more scope to the authorities to pursue domestic stabilization policies. Strong balance of payments and reserve positions had also supported Malaysia in coping with the adverse impact of the external shocks. In order to permit the exchange rate to better reflect the prevailing market conditions without undue short-term fluctuations, the Malaysian Government on 21 June 1973 allowed the ringgit to float against the US dollar, just a day after the Singapore dollar was floated. In early 1975 the erratic performance of the US dollar abroad, resulted in undue fluctuations of the ringgit. This again frustrated the internal objective of the Malaysian government in maintaining a stable value of currency. Therefore, since September 1975 the value of ringgit was determined in terms of a composite of the principal currencies of Malaysia's trading partners. Under this composite arrangement, the ringgit was allowed to float against the demand and supply of the main trading partners' currencies.

The performance of the ringgit after the adoption of the floating system showed mixed results:

1. During 1976 to June 1980, the ringgit was stable against the official composite, reflecting generally strong balance of payments position. In the last quarter 1980 the ringgit weakened against the official composite due to the deterioration of the current account to a low of 98.6 (September 1975 =100).

2. From 1981 to 1984, the ringgit recovered to appreciate again the composite, despite the worsening current account position. This was due to periodic interventions to strengthen the ringgit in a way of offsetting imported inflation as a result of strengthening the US dollar and restoring business confidence. As the ringgit continued to strengthen together with the US dollar, other ASEAN currencies weakened by comparison. During this period, the ringgit was generally regarded as overvalued, the official composite index ranged between 103.5 and 109.5. Malaysian export competitiveness, therefore, worsened, accentuating the deficit in the current account of the balance of payments. Since the root cause of the current account deficit was fiscal imbalance, devaluation alone, therefore, would not have been sufficient to correct the balance of payment situation. A more direct policy of severe expenditure cutbacks was necessary to ensure lower imports. The burden of adjustment, then, fell on public expenditure, which was drastically cut, through sig-

nificant reductions in both development and current expenditure. In the meantime, the ringgit was allowed to depreciate.

3. During the period 1985 to 1988, the ringgit had depreciated mainly due to the strengthening of most component currencies of the composite as well as the weak domestic economic performance in 1985-86. The lower depreciation of the ringgit in 1987-88 despite strong economic fundamentals, were due the strengthening of the major currencies abroad, large capital outflows arising from interest rate differential between Malaysia and other countries, and increasing demand of US dollar for large external loan repayments and import payments. During this period the ringgit depreciated to 13.7 percent in 1986 and 6.2 percent in 1988. This depreciation enhanced price competitiveness of Malaysian exports and attracted inflows of foreign investments. As a result, current account improved further to record surpluses of US$ 6.6 billion in 1987 and $4.8 billion in 1988.

4. At the end of 1989, the ringgit had appreciated by 3.9 percent reflecting the continued strong economic performance of the country and the deliberate policy measures taken to reduce interest differentials to curb short-term capital outflows as well as the weakening of most major currencies against the US dollar. In 1989 the monetary policy was tightened the statutory reserves ratio was increased. By the end of 1990, the ringgit had turned around to depreciate by 6.3 percent against the official composite, reflecting the strengthening of most of the component currencies against the US dollar.

The floating exchange rate regime for Malaysia did give greater flexibility in monetary management and made domestic stabilization policies more effective. However, the openness of the economy did result some adverse effects from the floating regime. The inflationary pressures from imported inflation and exchange rate depreciation. The prolonged depreciation on the ringgit vis-_-vis the debt denominating currencies had raised substantially debt burden from mid-1980s. Frequent capital outflows arising from exchange rate speculation and arbitrage activities, making monetary management difficult. The prolonged intervention to stabilize the ringgit was avoided to preserve official external reserves.

When the Bank of **Mongolia** (BOM) established in 1991, the exchange rate was pegged to the US dollar until 28 May 1993 on which Mongolia transferred to the independent floating exchange rate regime. During the peg exchange rate system, the Tugrik had been devalued twice: 563 percent on 10 June 1991 and 375 percent on 1 January 1993. After implementing independent floating exchange rate regime since May 1993, the exchange rate was stable in 1994-1995 thanking to capital inflows from the donor countries and the increase of world market prices of copper and cashmere, the main export products of Mongolia. However, when Mongolia's export price declined about 30 percent in 1996, foreign loans and grants decreased, and banking sector came to crises, the demand foreign currency surged which forced the central bank to intervene in the foreign exchange market to stabilize the exchange rate. The combination of between central bank intervention, tight monetary policy and guaranteed foreign loans had succeeded the stabilized Tugrik during 1996-1997.

The official exchange rate in Mongolia is set daily bay central bank as the midpoint of the previous day's average buying and selling rates established by the transactions amongst participants in the inter-bank foreign exchange market. However, the volume of trading is very low and the BOM currently adjust the official rate only once a week rather than once a day. The official rate is applied to public sector imports and service payments. The spread between commercial banks buying and selling rates is limited to one percent. During 1998 the international world prices of Mongolian main export had declined drastically, government budget deficits rose, trade balance and balance of payments deficits surged, Russian and Asian currencies depreciated excessively. In coping with external and internal shocks and in a way of stabilizing the exchange rate, the BOM had made net intervention of US$ 4.7 million. As a result, the tugrik exchange rates against foreign currencies was comparatively stable due to appropriate adjustment and preventive measures.

II. The Overview of Exchange Rate Regimes: After June 1997 Crises

After the crises, July 1997 onward, there has been a trend in the SEACEN countries to move from managed floating regime to independent flexible exchange rate regime, with the exception of Thailand of which moved from the pegged exchange rate regime. The timing and the reasons of the movement, however, are quite similar i.e. due to

large external shocks in term of speculative attacks and loss of confidence. Six of 8 countries under more flexible exchange rate regime have followed independent floating regime and only two countries remain in the managed floating regime, i.e., Singapore and Sri Lanka. Malaysia is the only country of which has different policy response toward the external shocks. It has moved from managed floating regime to pegged exchange rate regime (pegged to a single currency, US dollar).

Table 2.4: The Exchange Rate Regimes in SEACEN Countries: After Crises Position as in December 1999

No.	Fixed Exchange Rate		Flexible Exchange Rate	
	Single	**Basket**	**Managed**	**Independent**
1	Malaysia	Nepal	Singapore	Philippines
2		Myanmar	Sri Lanka	Mongolia
3				Thailand
4				Indonesia
5				Taiwan
6				South Korea
Total	1	2	2	6

1. The Movement to Independent Floating Exchange Rate Regime: After Crises

Under the basket-peg exchange rate regime amid large and volatile global capital movement, there was not much room for independent domestic monetary policy in **Thailand**. Relationship between monetary and economic variables become unstable, forcing BOT to adopt the multiple indicators approach in monitoring monetary conditions and in assessing the need for policy actions. While the multiple indicators

approach provided the much-needed policy flexibility within a volatile economic and financial environment, it sometimes undermined the central bank's ability to make timely and reliable assessment of economic and financial developments, as well as its ability to communicate meaningful policy signal to the market. Meanwhile, with small and ill-liquid public bond market, the BOT's domestic open market operations were severely limited. Thus, it has become reliant on other types of monetary policy: the BOT bond issues, the foreign exchange swap operation, moral suasion, selective credit planing and prudential regulations.

Starting February 1997, speculative attacks intensified when there were once again widespread rumors about the change in the exchange rate system. At the same time, financial sector problem worsened and export growth declined from over 20 percent in 1995 to virtually zero growth in 1996. Market turnover multiplied and exchange rate moved violently. Since export slowdown was deemed to be partly cyclical and partly structural, linked to the across-the board slowdown in growth of the Asian economies, which could not be corrected through currency adjustment, the BOT had to intervene heavily to keep the baht exchange rate within the EEF's band. Domestic liquidity was also tightened, sending overnight inter-bank rate to as high as 30 percent from 9-15 percent at the beginning of the year.

When economic fundamentals did not show sign of improvement, public confidence in the financial system dwindled and political uncertainty intensified, a massive and sustained speculative attack on Thai baht took place during May 1997. In response to renewed attacks, capital restriction was imposed to cut the offshore market of baht supply. Foreign exchange transactions with, and lending of baht to, non-residents were limited to those with genuine underlying commercial or investment activities only. Domestic confidence returned briefly until mid-June 1997 when the Finance Minister resigned on political pressure. The demand from panicked local corporations to buy US dollar to hedge their foreign exchange exposure resulted in heavy loss of reserves through the EEF window. Short-term interest rates were raised to discourage demand for foreign currency, but to little avail. The self-fulfilling behavior on the part of domestic residents showed no sign of abating and was beyond the BOT's control. To stem further loss of reserves, which had already been severely depleted, the BOT had to let the baht float on 2 July 1997.

The decision to move to the independent floating exchange rate regime was premised on the rationale that devaluation of the bath would be only limited gains in export competitiveness due to high import-content of Thai export products. Devaluation would intensify inflationary pressure through higher import and wage demand. The BOT, even with substantial foreign reserves, would not have been able to stabilize the exchange rate, given larger unhedged foreign currency debt of Thai corporations and impaired asset quality of financial institutions. High interest rates to contain inflation would make it even more difficult for weak financial institutions to recover.

When there were speculative attacks in mid-July 1997, **Bank Indonesia** had widened the intervention band from 8 percent to 12 percent from central rate on 11 July 1997 and had tried to defend the rupiah through intervening in the foreign exchange market. At the same time, monetary policy was tightened: BI's certificate was raised from 7 percent to 30 percent. In order to defend foreign exchange reserve position and allow greater degree of freedom for domestic monetary policy to exercise control over monetary aggregate, BI had finally abandoned the managed floating exchange rate regime and then adopted independent floating exchange rate regime since 14 August 1997. The independent floating exchange rate regime seems to be the most realistic for a relative large country, like Indonesia on the fact of large share of non-traded sector in its economy. Since then, the external value of rupiah has depreciated by over 80 percent since July 1997.

The financial crises in Indonesia had been caused by a combination of number of factors. The first major one is the excessive short-term external borrowings of corporate sector and unfortunately, the large share of these were not hedged because of historically predictable and low rate of the rupiah depreciation. Larger share of these had been invested in non-traded sector and manufacturing industry which did not significantly generate the stream of exports earnings necessary for debt repayments. This investment had been funded through massive short-term capital inflows as shown by widening current account deficits account deficits from below 2 percent of GDP in 1993-1994 rose to 3.6 percent in 1995 and 3.7 percent in 1996. Moreover, the over-investment had caused another distortions such as asset overvaluation as is evident in real sector. The over-investment had caused overheating economy during 1994-96 signaling from an excessive domestic demand as consequence of significant capital inflows. High economic growth was

driven by strong domestic demand from which was a product of buoyant domestic consumption and investment. The small government budget deficit (0.5 to 1 percent during 1992-1996) was not big enough to check the rapid expansion in private sector consumption and investment expenditure.

Table 2.5: Movement From Managed to Independent Floating Exchange Rate Regime in SEACEN Countries: After Crises

No.	SEACEN Members	Flexible Exchange Rate		Year
		Managed	Independent	
1	Bank of Thailand	Nov. 1984 - Jul '97	2 July 1997 - now	2.2
2	Bank Indonesia	Nov. 1978 - Aug '97	14 Aug. 1997 - now	2
3	C. Bank of China, Taipei	Jan. 1979 - Sep '97	17 Oct. 1997 - now	1.8
4	Bank of Korea	Mar. 1980 - Mar '90	16 Dec. 1997 - now	1.7

Secondly, the financial deregulation in 1998 had not been accompanied by strict implementation of the rules and regulations governing the financial system. The financial deregulation combined with lower reserve requirement, greater access to offshore markets, and the extensive movement towards privatization, has led to a substantial expansion in banks' credit. This is shown at loan to deposit ratio peaking at 138 percent in 1995, much higher than the maximum allowable ratio of 110 percent. On average, credit outstanding of commercial banks increased by over 24 percent per annum during 1992-97, or over three times of the average annual rate of economic growth rate at the same period. The rapid expansion of banking credit had led to significant number of non-performing loans, to a significant degree associated with foreign borrowing, related-party lending and property sector exposure. Excessive exchange rate depreciation together with high interest rate and loss of confidence had deteriorated further the banking and firms' balance sheet as much of their debt is denominated in unhedged foreign currencies. In addition, the implicit central bank policy to prevent a systematic collapse of banking industry and inadequate implementation of rules and regulations in the banking supervision had caused a moral hazard to bank management and owners.

The financial crisis was aggravated by political uncertainty and social unrest. Angered by rising prices and unemployment, violent riots have erupted in a number of towns that led to the resignation of President Soeharto on 21 May 1997. Moreover, the lack of transparency and good governance, and of reliable and timely statistical information had forced market players to transact based on rumor and their own perceptions, ignoring the performance of economic fundamentals. Furthermore, the rapid economic integration into the global economy had not been accompanied by sufficient institutional and regulatory measures in filtering its negative impacts.

The financial crises occurred in Indonesia during the unfortunate time. On domestic front, the weather related problem because of long drought and forest fire in 1997 and 1998 has caused seriously damaging effects on production in forestry and agriculture sectors. Because of the drought, crop production fell by 1.8 percent and the growth of agriculture production dropped to 0.6 percent in 1997. On external front, there was a combination of negative terms of trade and dry up in capital inflows. The fall in oil prices and low demand for Indonesian exports (such as wood-based products) reduced foreign exchange reserves. Meanwhile, the economic difficulties and slow growth in Japan and Korea drain capital inflows from those countries.

The Asian financial crises have affected the economic performance in **Taiwan** even though its impacts had been relatively minor, thanking to strong Taiwan's economic fundamentals. The strong economic fundamental is indicated through sustained current account surplus and abundant foreign reserves and limited external debt, improved financial structure for private sector, a sound financial system, adaptability of enterprises to shocks, gradually liberalization of capital account. Taiwan's economic fundamental and other strengths have shielded Taiwan against the worst of the Asian financial crises. Taiwan's strong economic growth and price stability together continue to provide a healthy macroeconomic environment in which to conduct banking business.

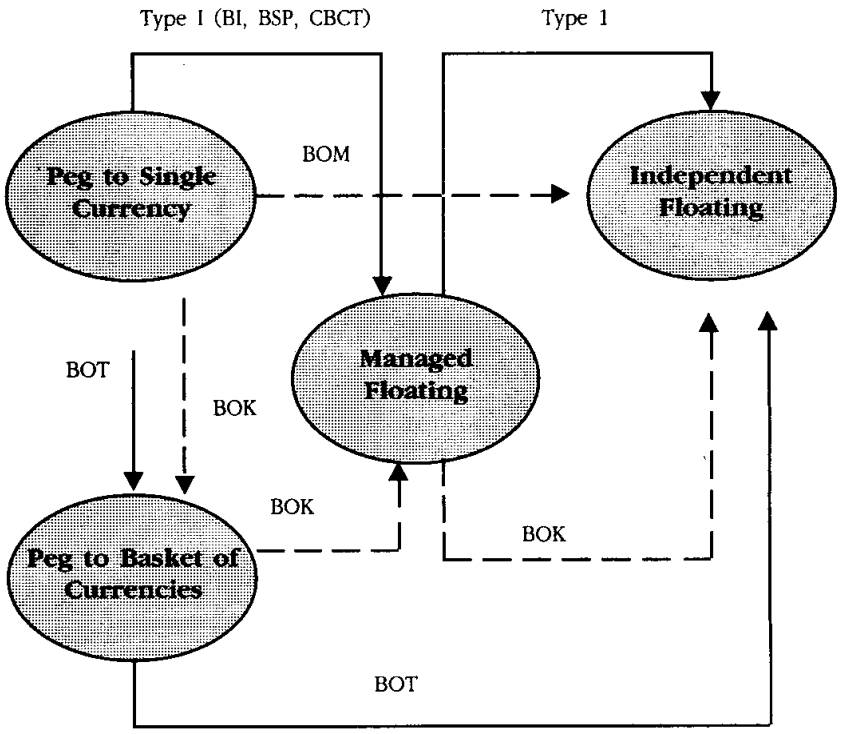
From July 1997, the NT dollar became under heavy pressure to depreciate forcing the CBC to actively intervene in domestic foreign exchange market between July-October 1997 and allowed interest rates to rise temporarily to prevent a downward spiral of a NT dollar depreciation. In early August 1997, the CBC raised both the rediscount rate and the interest rate on accommodations against secured loans in a

continuous effort to stabilize the NT dollar. In the following months, the CBC continuously intervened in the foreign exchange market and also allowed interest rates to rise to a certain extent. The impacts of financial crises also showed that the Taiwan economy is not completely independent from the international financial environment.

The US dollar continued to strengthen and there are no signs of the financial turmoil abating in the short run, the expectation of NT dollar depreciation, then, intensified. Feeling unable to deal with this sweeping international trend single-handedly, and due to the loss of confidence on the part of domestic residents, since 17 October 1997, the CBC decided to abandon its support of the NT dollar and allows the market mechanism to determine its exchange rate. Having spent more than US$ 7 billion in intervention, the CBC recognized the difficulty of resisting international speculative attacks. When the CBC focussed on exchange rate as the target of monetary policy, it lost control of the money aggregates and interest rates, so the stock market and domestic investment suffered badly. However, by letting the market determine the exchange rate, the real sector, the money market, the stock market and the foreign exchange market shared the adjustment burden together. Since then, the CBC has intervened in the market only o when unjustifiable depreciation of the NT dollar has occurred. The CBC has become tolerant of wider daily fluctuations in the NT dollar.

Recently, due to a continued erosion in Taiwan's financial markets on the back of a plunging yen against the US dollar since late May, the CBC had adopted a clear strategy to actively defend the NT dollar, and has again increased its intervention in the local foreign exchange market. The CBC is currently concerned which keeping interest rates stable, and will not harm stocks in defending the NT dollar. In order to stop the inter-related decline in share prices and the NT dollar, the CBC seeks to maintain stable interest rates and will continue to inject fund into the market to keep interest rates within a reasonable range. That is, it will maintain an appropriate balance between interest rate and exchange rate objectives. Under this policy strategy, the CBC will also take measures to leave speculators little space to manipulate both the foreign exchange and stock markets.

Chart 2.1: The Movement Path Toward Independent Floating Exchange Rate Regime in SEACEN Countries



The symptoms of financial crises in **Korea** had actually been started since 1996 when the economy began to slowdown from 9 percent in 194-95 to 7.1 percent in 1996, while the ratio current account deficits, This deficit was financed by inflows of foreign capital, had widened from below 2 percent in two preceding years to 4.7 percent in 1996. In nominal terms, current account deficits had increased to US$23 billions in 1996 as compared to US$8.5 billions in 1995. The widening current account deficit was brought about by the deceleration of export growth due to the fall in the prices of Korea's major export items. From beginning of 1997, a number of large companies had been hit by sluggish sales, low profitability and finally collapsed under huge burden of financial costs. This series of large corporate insolvencies inevitably undermined the soundness of financial institutions in Korea. As a result, non-performing loan raised significantly from 13.5 percent of total credit in 1996 to 30.2 percent at the end of March 1998 or 13 percent of GDP.

The contagion effects of Asian currency crises had even worsened the Korean economy. The downgraded Korea's long-term sovereign rating in October 1997 had caused foreign financial institutions to turn down requests to roll over their loan to Korean banks and led institutional investors to withdraw their portfolio investment from Korean stock market. In November 1997, the demand for foreign currency to redeem foreign debts increased markedly in the Seoul foreign exchange market as result of significant decline of the roll-over ratio of short term external borrowings of domestic institutions. At the same time, there were widespread expectations of Korean Won depreciation. To counter this, BOK widened intervention band from 2.25 percent to 10 percent on 16 November 1997 and had intervened for the huge amount of US$18 billion in the foreign exchange market, until found itself on the brink of national insolvency as the country's usable foreign exchange reserves became severely depleted to US$ 7.3 billions in November 1997, way below level sufficient to cover even one month's imports. Consequently, the government had to turn to request bailout loans to the IMF on 21 November 1997. Finally, the Korea shifted to independent floating exchange rate system on 16 December 1997, and since then the foreign exchange rate is decided solely by the interplay of market forces.

Financial crises in Korea were rooted to the lack of transparency in which eroded market confidence, particularly lack of accounting transparency in both corporate sector and among financial institutions. This has made difficult for foreign investors to grasp the actual status of firms. The failure of market principles among economic entities, especially large conglomerates and merchant banks, led to the overall inefficiency of the economy. Moreover, inappropriate policy responses to the evolving problems, maintaining a narrow exchange band under widening current account deficits, also contributed to the worsening of the crises. If the band had been widened earlier, the sudden massive fall in the exchange value of the Korean won toward the end of 1997 could have been avoided through gradual depreciation.

2. The Movement to Single Peg Exchange Rate Regime: After Crises ((Malaysian Case)

Exchange rate volatility occurred during 1992-93 following substantial short-term capital inflows during that period. Attempts by BNM to neutralize the impact of the flows on exchange rate did little to reduce

the volatility. During 1994-96, Malaysian economic fundamental was strong as witnessed by steady inflows of foreign direct investment, building up of international reserves and a stable exchange rate. The real effective exchange rate, then, appreciated in that period. Prior to July 1997, there was some evidence of imbalances in the Malaysian economy in terms of a current account deficit, some asset price inflation and high credit growth. The current account deficits during the period 1990-97 was at average of 6.2 percent of GNP, which reached the highest at 10.5 percent in 1995. The imbalances were attributable to excessive domestic demand in relation to the productive capacity of the economy and to distortions in the price levels resulting in the shift of resources away from the productive sectors to the less productive sectors. These imbalances had been adjusted so that there were no fundamental risks of impending crises. Even, there were some economic imbalances, Malaysian economic fundamentals seemed to be sound: stable money multiplier, low international interest rate, low inflation, stable exchange rate and moderation in the asset markets; which placed Malaysia in a less vulnerable position.

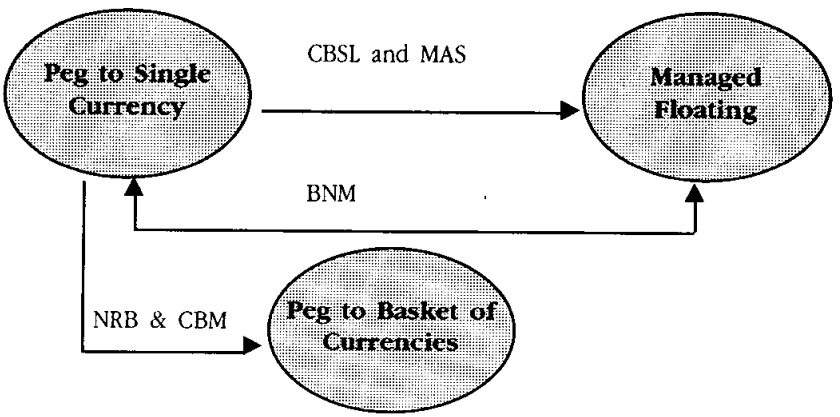
The contagion effects of Asian currency crises appeared to be greater and widespread than expected. In 1997 the ringgit depreciated by 35 percent against the US dollar. The contagion effects resulted in a loss of investor confidence and large outflows of foreign short-term capital. The volatility of ringgit had made decision to invest increasingly difficult. The initial response from BNM was to intervene in the foreign exchange market to stabilize exchange rate, while allowing interest rates increased. The BNM's 3-month interest rate rose from 10 percent to 11 percent on 6 February 1998. The subsequent actions of BNM in 1997 showed that it decided to accept the volatility in the exchange market in order to maintain stability of domestic interest rates. The higher interest rate would not significantly strengthen the currency, but would only be detrimental to the economy and banking system, and therefore contribute towards further weakening of the currency. Interest rate were, therefore, only raised in small steps since October 1997 mainly to address the expected increase in inflation due to ringgit depreciation. Development in the offshore markets of ringgit further constrained the use of interest rates to support ringgit rates.

During the period January - 2 September 1998, when Malaysia pegged its ringgit to the US dollar, the ringgit had depreciated at 22.6 percent against the US dollar. In this period, the ringgit continued to

be affected by the turbulence regional developments: the sharp depreciation of Indonesian rupiah and Japanese Yen against the US dollar; as well as the contraction in domestic economy. During the first-half of 1998, the economy was contracted by 4.8 percent. The rapid increase in the internationalization of the ringgit since April 1998 also contributed to the weakening ringgit during that period. This development caused outflows of ringgit deposits that were attracted by higher offshore interest rates ranging from 20-40 percent, while onshore rates were then 11 percent. This trend, if left unchecked, would undermine the prospects for recovery and the ability to conduct monetary policy based on domestic conditions.

In order to reduce the negative impacts of the internationalization of the ringgit and to stabilize short-term capital inflows, Malaysia imposed selective exchange control since 1 September 1999. This measure also is based on the view that the ringgit exchange rate could only stabilize with resumption in confidence, positive sentiment as well as an overall economic recovery. As part of the measures, the ringgit has been fixed against the US dollar on 2 September 1998 in a way of providing a greater of certainty to the market for the conduct of trade and investment activities, and to revive the consumer confidence. These measures are temporary, complement, and are not a substitute for policy adjustments, and would be modified or removed when its objectives have been achieved.

Chart 2.2: The Movement Path toward Managed Floating Exchange Rate Regime



In judging the use of exchange controls as policy option, Malaysian government relied on some pre-conditions that had been developed before implementing the exchange controls, to yield some desired results. First, short-term debt accounted for 24 percent of total external debt or less than a half of foreign exchange reserves. The bulk of short-term debt was borrowing by the commercial banks, which the most part was fully hedged against contract and with their exporting clients. Malaysia's total external debt at the end of 1997 was US$32.5 billion or 34.7 percent of GNP, is low by international standard. The international reserves stood at US$20.2 billion, sufficient to finance 4 months of retained imports. Second, about 60 percent of external debts have remaining maturity that exceeds three years. Three, Malaysia generally did not experienced significant capital outflows of the type and magnitude experienced by countries facing balance of payments and reserves constraints. Four, Malaysia has maintained free movement of all current account transactions and had taken corrective measures to improve current account deficits so that foreign savings were channeled to the more productive sectors of the economy. Five is relatively low of inflation rate.

Chapter Three

EXCHANGE RATE REGIMES AND MACROECONOMIC PERFORMANCE: THE CASE OF SEACEN COUNTRIES

The relationship between exchange rate regime and macroeconomic performance in this chapter is analyzed by observing the inter-linkages amongst four main block macro-economy: balance of payment, real sector, government sector, and monetary sector. The analysis is focused the on the long-term trend of real effective exchange rate (REER) and the structure of balance of payment, while other important macro-economic indicators: GDP and its components, inflation rate, government budget balance, savings-investment gap, and real broad money will also be detected. The behavior of these variables would be closely studied under different kind of exchange rate regimes. This comparative analysis, then, is deeply explored in an attempt to have a better understanding on how domestic price stability is preserved under different kind of exchange rate regime, monetary policy framework, balance of payment structure, government finance structure. The success to maintain price stability, then, shall depend the authority's capability on how to optimize the policy mix amongst short term macroeconomic policies: exchange rate policy, monetary policy and fiscal policy, under different kind of environment. The basic analysis in this chapter should be able to facilitate in answering whether that the choice of exchange rate regime is really matter after the Asian crises.

1. Macroeconomic Performance in the SEACEN Countries: Before Crises, 1990-96

a. Basket Peg Exchange Rate Regime: 1990-96

Before crises, Korea, Nepal, and Thailand had implemented basket peg exchange rate regime more than 10 years since early 1980. Korea had moved toward managed floating exchange rate regime on March 1990, seven years before crises. Thailand had moved to independent floating regime since the crises, July 1997, while Nepal has continued to maintain basket peg system until today. During the period 1990-96, Nepal's trade weighted exchange rate tended to depreciate against its trading partners, both nominal and real terms. About 92 percent of total observation had exposed depreciation of NEER with the mean of de-

preciation at –10.5 percent on average. In real term, however, its REER only depreciated around -4.5 percent, due to relatively higher domestic inflation rate as compared to its trading partner's inflation rate. The high domestic inflation rate had considerably reduced Nepal's export competitiveness against its trading partners. Nepal's average inflation rate was around 10.6 percent while the trading partner's trade weighted inflation was only a half, averaged at 4.6 percent[1]. During 1990-95, Nepal's export was more competitive as compared to Thailand in term of relative changes of REER, but in term of absolute index level, Thailand's export was much more competitive against its trading partner respectively. As result of the declining long-term trend of REER index, Nepal's export had been more competitive to Thailand during May 1995 to 1996[2].

The Nepal's exchange rate policy during this period had been directed to boost export sector so as to reduce huge trade deficit, averaging at -16.7 percent of GDP. The declining trend of its REER index had been able to sustain a steady export growth rate 12.6 percent, even higher than that in some countries under managed floating exchange rate regime (table 3.4). The Nepal's current account deficit had been preserved at 6.4 percent of GDP, thanking to the noticeably positive net service balance. However, the large NEER depreciation had channeled toward higher domestic inflation rate, relative to its trading partners' inflation. Moreover, the large depreciation had created more volatility of NEER, and, thus reducing business confidence. Nepal's NEER volatility was the second largest amongst SEACEN members, after Mongolia.

1. Trading partner's inflation in this chapter is weighted according to their respective share of total trade.

2. Long term trend of REER in this chapter is calculated based on Hodrick-Prescott Filter.

Table 3.1: The Average Changes of REER Index Under Basket Peg Exchange Rate Regime: Before Crises 1990-96, 1995=100 (percent year on year)

Items	Nepal[3]	Thailand[4]
a. Nominal Effective Exchange Rate		
- Mean	-9.46	-1.35
- Mean of depreciation	-10.48	-2.70
- Mean of appreciation	1.68	2.68
- Standard deviation	7.26	2.94
b. Real Effective Exchange Rate		
- Mean	-4.50	0.46
- Mean of depreciaiton	-7.28	-2.11
- Mean of appreciation	3.34	3.74
- Standard deviation	5.70	3.68
c. Average Inflation		
- Respective Country	10.55	5.11
- Trading Partner, trade weighted	4.62	3.16
Observations (months)	84	84

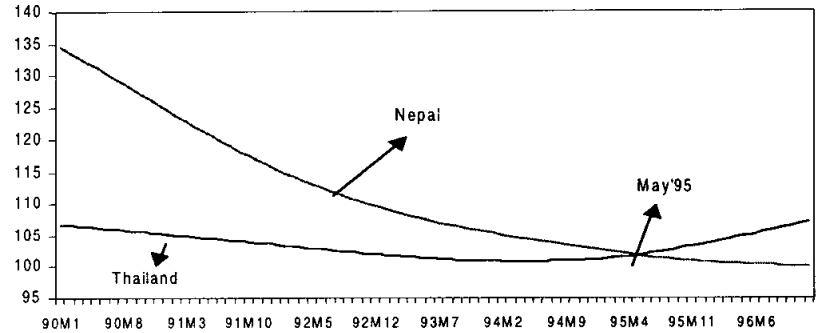
Sources: IFS, SFS, DOTs, Individual Central Bank's Annual Report, various publications, positive is appreciation.

3. Nepal's REER is weighted by 8 trading partner countries (Germany, India, US, Japan, Signapore, Hong Kong, Thailand, and China) representing 75.5 percent of Nepal total international trade, average ratio between 1990-97.

4. Thailand's REER is weighted by 15 trading partner countries (Japan, US, Singapore, Germany, Malaysia, Taiwan, Hong Kong, China, UK, Korea, Netherlands, France, Philippine, Indonesia, and Italy) representing 78 percent of Thailand's total international trade, average ratio between 1993-98.

Nepal's current account deficit also was relatively high, at 6.4 percent of GDP during the period. Both official and private capital inflows had been utilized to finance the current account deficits with almost equal share. So far, this equal ratio had sufficiently served the authority in minimizing the threat of sudden short-term capital outflows, even though there were no private FDI inflows. The significant share of agricultural sector in Nepalese economy, 41 percent on average, had contributed toward a steady economic growth rate before crises, at 5.1 percent on average, but escorted by high domestic inflation rate at 10.5 percent. Strong domestic demand, high coefficient of marginal propensity to consume (0.85), fairly high overall government budget deficit, and unstable velocity of money had greatly reduced the room for maneuver of monetary policy in curbing down domestic inflation. The overall budget deficit showed a steady rate at 3.3 percent of GDP on average. The low coefficient of marginal propensity to save had hindered the accumulation of domestic savings as sources of investment. Ratio domestic savings to GDP was 14.7 percent during that period, less than a half of Thailand. In term of capital productivity, Nepalese economy had been able to utilize capital in more efficient ways, even the second most efficient after Sri Lanka on average. Its productivity of capital was tremendously high, at 57.7 percent, while Sri Lanka was at 60 percent.

Graph 3.1: The Long-Term Trend of REER Index Under Basket Peg Regime, Before Crises: 1990-96, 1995=100



Nepal's economy is a relatively less open economy compared to Korea and Thailand. On average, its trade ratio to GDP reached 33 percent, much less than 68 percent in Thailand and 50 percent in Korea. Nepal's nominal GDP leveled at US4 billions dollar, the second smallest amongst SEACEN country after Mongolia. Its relative international reserve was 13 percent of GDP or equivalent to US0.5 billions dollar. The low level of economy size and international reserve had supported the authority to stay on the basket peg exchange rate regime that had been employed since June 1983.

During that period, Thailand's trade weighted nominal exchange rate against its trading partners had tended to depreciate. About 75 percent of total observations, its NEER had depreciated with the mean of depreciation at –2.7 percent per month. In real term, however, the REER had showed a net appreciation at 0.5 percent per month, due to relatively higher domestic inflation as compared to its trading partner inflation rate and large appreciation in 1996 as the result of strong dollar and of policy response to enormous private capital inflows. During 1990-95, Thailand had tried to preserve its export competitiveness against its trading partners by maintaining shallow declining trend of its REER, and its export growth rate had been uphold at 18.8 percent per annum. Under basket peg exchange rate regime, Thailand authority had been successful to serve as the second most stable NEER volatility, after Singapore. This had facilitated the Thailand authority in maintaining the domestic price stability, a pre-condition for sustaining economic growth. Since June 1994, however, the long-term trend of REER index had been curved up, showing an increasing trend. In 1996, Thailand's REER had substantially appreciated at 7 percent per month and, consequently, the export growth had dropped to negative 1.9 percent.

Table 3.2: Macroeconomic Performance Under Basket Peg Exchange Rate Regime: Before Crises 1990-96, As ratio to GDP otherwise stated, percent At 1995 constant prices for GDP figure.

Balance of Payment Indicators	Nepal[5]	Thailand	Macroeconomic Indicators	Nepal	Thailand
Export growth, nominal	12.59	15.83	Real GDP growth	5.16	8.5
Import growth, nominal	12.97	16.34	M2, real growth, yoy	8.25	12.03
Trade Balance	-16.68	-8.58	Inflation, yoy	10.34	5.11
Current Account	-6.44	-6.96	Income velocity std. dev.	0.25	0.09
Capital & Financial Bal.	8.66	10.27	GDP deflator changes, yoy	9.91	4.93
- Official Cap. Inflows	4.28	0.19	Investment/GDP, nom	23.16	41.1
- FDI	na	1.39	Dom. Savings/GDP, nom	14.68	34.06
- Portfolio Investment	na	1.38	Capital Productivity[6]	59.24	29.51
- Other long term Invest.	na	1.38	MPC	0.85	0.65
- Short term investment	na	2.32	Private S-I Gap/GDP	-4.92	-10.92
- Other Investment	4.38	na	Gov. S-I Gap/GDP	-3.56	3.88
- Inflows Bank	na	3.61	Gov. Savings/GDP	2.61	12.05
Overall BOP	2.21	3.31	Overall gov. budget/GDP	-3.34	3.33
International Res., gross	13.33	19.88			

Sources: IFS, SFS, Annual Reports' individual country, various publications.

Thailand's current account deficits averaged at approximately 7 percent of GDP, of which was financed by massive private non-bank capital inflows (6.5 percent of GDP) and private bank capital inflows (3.6 percent of GDP). Accordingly, Thailand's overall balance of payment had been surplus averaging at 3.3 percent of GDP or equivalent to US4.3 billions dollar. Under basket peg exchange rate system, this surplus must be sterilized in a way of defending the exchange rate target. If the surplus were not sterilized, the bath would appreciate. This was the case in 1996 when the surplus reached at US5 billions dollar, and the central bank of Thailand did not sufficiently absorb it, so that its NEER appreciated at average of 3.5 percent in 1996. The sterilization policy required to preserve fixed exchange rate, therefore, is not sustainable policy in longer term.

5. All Nepal's macroeconomic data had been calculated as an average of two periods, as a proxy annual data instead originally fiscal data (Jun-July).

6. Capital productivity in this chapter is defined as additional GDP per unit investment including stock changes.

The continuing surplus overall balance of payment had built international reserves up to 20 percent of GDP on average. During this period, Thailand had experienced economic booming as indicated by large trade balance deficit, averaging at 8.7 percent of GDP, and high economic growth rate. The exchange rate stability under basket peg exchange rate regime had been able to curb down inflationary pressures spring from overheating economy. Thailand's economic fundamentals before crises looked so astonishing: high economic growth rate at 8.5 percent on annual average, and moderate domestic inflation rate at 5.1 percent per annum, and surplus overall government budget at 3.3 percent of GDP. Yet, bulky fraction of short-term capital inflows and the relatively low capital productivity had overshadowed the economic achievement during this period.

Thailand's economy is a reasonably open economy compared to Nepal and Korea. During 1990-96, on average, its trade ratio to GDP reached 68 percent, higher than 50 percent in Korea. Thailand's nominal GDP leveled at US131 billions dollar, the fourth largest amongst SEACEN country, after Korea, Taiwan, and Indonesia. Its relative international reserve was 20 percent of GDP or equivalent to US26 billions dollar. The economy size consideration seemed did not encourage the authority to pursue more flexible exchange rate regime. The economy openness consideration might have propped up the authority to stay on the basket peg exchange rate regime that was initiated since November 1984.

During the last 3 years under basket exchange rate regime, 1987-89, Korea's trade balance and net service balance had exposed significant surplus, and had generated current account surplus at almost 6 percent of GDP. Consequently, Korea's overall balance of payment had been in huge surplus, averaging at 2 percent of GDP on average. In absolute term, this surplus had been US9.4 billions dollar in 1988 and US2.5 billions dollar in 1989. Under basket peg exchange rate regime, the surplus must be sterilized in order to preserve the exchange rate target. Nevertheless, the Korea's central bank did not adequately sterilize it, so that its NEER had appreciated at 9.3 percent against its trading partners in 1988-89. Korea's REER had appreciated at 11.5 percent on average, due to higher domestic inflation relative to its trading partner's inflation. The REER appreciation had considerably reduced Korea's export competitiveness. Its export growth had severely reduced to 3 percent per annum during 1989-90, as compared to 33

percent during 1987-88. Accordingly, the ratio of surplus trade balance to GDP had noticeably plunged from 6.2 percent in 1988 to 1.9 percent in 1989. Finally, Korea's current account became deficit since 1990, stirring the monetary authority to swing toward managed floating exchange rate regime.

The experiences of the three countries pursuing basket peg exchange rate regime seemed to show that maintaining exchange rate stability was not always easier when the economy had become increasingly open and the capital mobility was more perfect. In the case of Thailand and Korea, more opened economy and stronger capital flows had made their exchange rate policy less effective in achieving the exchange rate target, domestic price stability, preserving export competitiveness at the same time. Sterilization policy, although may be effective in defending the exchange rate target in the short term, tends to be counter productive for the real sector as sterilization policy requires higher domestic interest rate. In fact, however, Korea had been able to maintain the exchange rate target during 10 year (1980-90), escorted by higher exchange rate volatility as compared to Thailand. Thailand had been able to preserve exchange rate target within 12 years (1984-96), accompanied by low exchange rate volatility.

Moreover, the composition of capital account had influenced the authority ability to uphold exchange rate stability. More long-term capital inflows required to finance the current account deficit, would enable the government to reduce short-term exchange rate volatility. Nepal, although its export was less competitive compared with Thailand and Korea, had a better shape in term of balance of payment composition. Major fraction of long-term capital inflows and the relatively less open economy had been able to minimize the negative impacts of external disturbances. Moreover, the depreciative exchange rate policy had been able to preserve Nepal's export competitiveness in term of relative changes, although with consequence of higher exchange rate volatility and domestic inflation rate. Thailand had also successfully maintained more stable exchange rate volatility, and, thus, domestic price stability, for long period. However, as consequence of more open economy and noteworthy portion of short-term capital inflows, Thailand economy is more vulnerable to the sudden large capital outflows, which can precipitate economic crises. Korea, which its export competitiveness had substantially deteriorated in 1998-89 due to large real appreciation against its trading partners, had experienced economic down turn in

1989. Thanking to strong domestic demand, Korean economy had still grew at 6.4 percent in 1989, much lower than that in previous year at 11.3 percent. The advanced movement toward more flexible exchange rate regime in 1990, as compared to Thailand, had given some degree of advantages for Korea authority in dealing with 1997's Asian crises.

2. Managed Floating Exchange Rate Regime: Before Crises, 1990-96

During 1990-96, Sri Lanka, Indonesia, Korea's NEER had exposed sizeable depreciation against their trading partners, while Taiwan and Malaysia' NEER had instituted relatively small net deprecation. Singapore, on the other hand, had experienced substantial net appreciation in both its NEER and REER. Nominal depreciation measured by NEER index was sufficiently significant in Sri Lanka, Indonesia, and Korea. In real terms, however, because of relatively higher domestic inflation relative to trading partners' inflation, their REER had appreciated. Although, Sri Lanka's currency had depreciated at most amongst member, higher domestic inflation had significantly abridged its export competitiveness. Its REER had revealed a significant net appreciation against its trading partners. Average Sri Lanka's domestic inflation was 12.7 percent per annum, much higher as compared to its trading partner's trade weighted inflation, at 4.1 percent. For the same reason, Indonesia and Korea's export competitiveness had been curtailed through higher domestic inflation relative to their trading partner. Korea's export was more competitive than that Indonesia due to Korea's lower inflation rate.

Taiwan and Singapore had been successful to uphold their export competitiveness through lower inflation rate strategy, relative to their trading partners' inflation. Singapore inflation, even, was significantly lower than trade weighted inflation of its trading partners, while in Taiwan inflation was just slightly lower than its trading partner's trade weighted inflation. Singapore's exchange rate policy had been managed to sustain stable and strong domestic currency in a way of reducing imported inflation, as the ultimate target of monetary policy. In conducting monetary policy, Singaporean authority had applied NEER as immediate target so that is why its volatility had been the smallest amongst the members. The success of Singapore authority in keeping lower inflation rate relative to its trading partners' had implied that the NEER target had been successfully met, even-though the target was not

publicly announced. The strategy of exchange rate policy seemed to be effective in maintaining Singapore export competitiveness. In term of REER index level, Singapore export had been the most competitive amongst countries under managed floating exchange rate regime, and the most competitive after Philippines amongst all members. In term of relative changes of REER, however, Singapore export competitiveness was the least as during the period concerned its exchange rate tended to appreciate against its trading partner, both in nominal and real terms. About 86 percent of total observation, Singaporean dollar had tended to appreciate in both nominal and real terms, against its trading partners. Its NEER had appreciated at 4.1 percent on monthly average, but its REER had only appreciated at 2.5 percent, thanking to lower domestic inflation relative to trading partner's inflation. The distribution of REER changes was close to normal distribution at probability at 77 percent, although it had showed a bimodal distribution as result of REER depreciation during 1992/93 (Graph 3.3).

During this period, Singapore's deficit trade balance was at – 1.1 percent of GDP on average. Its current account balance performed massive surplus at 12.3 percent of GDP on average due to large surplus in net services balance and net income balance. The significant surplus in net service balance is in line with the function of Singapore as the center of financial services in this region, at which services sector share to GDP accounted for 65 percent. Strong balance of payment position during that period had accumulated Singapore's international reserves at annual average of 77.8 percent of GDP or equivalent to US50 billions dollar, and this had enabled the Monetary Authority in defending and maintaining strong Singapore dollar. Singapore's trade dependency ratio was 279 percent, the most open economy in this region, and its nominal GDP was at US63 billions dollar, on average. The economy openness and international reserve considerations did not encourage Singapore authority to pursue fixed exchange regime. Rather, economy size importance had influenced the authority to select managed floating exchange rate regime.

The success of Singaporean government in maintaining strong currency had yielded at low inflation. Under this period concerned, the average inflation rate was only 2.5 percent on average while economic growth reached almost 9 percent at annual average. High rate of domestic savings and overall budget surplus, together with the improvement of capital productivity during that period had substantially con-

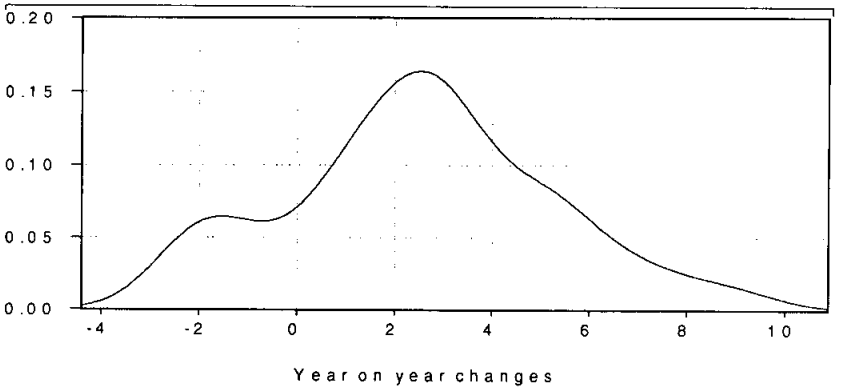
Table 3.3: The Average Changes of REER Index Under Managed Floating Exchange Rate Regime: Before Crises 1990-96, 1995=100 (percent, year on year)

Items	Singapore[7]	Malaysia[8]	Sri Lanka[9]	Indonesia[10]	Taiwan[11]	Korea[12]
a. Nominal Effective Exchange Rate						
- Mean	4.09	-0.61	-6.10	-5.25	-1.12	-3.07
- Mean of depreciation	0.57	-3.71	-6.38	-6.80	-4.74	-5.41
- Mean of appreciation	4.72	3.75	1.56	2.49	3.95	2.13
- Standard deviation	2.58	4.15	4.18	4.46	5.41	4.36
b. Real Effective Exchange Rate						
- Mean	2.54	0.04	1.70	-0.21	-1.40	-0.51
- Mean of depreciaiton	-1.66	-3.69	-3.37	-3.71	-4.84	-3.66
- Mean of appreciation	3.39	3.96	4.98	3.12	4.47	3.31
- Standard deviation	2.71	4.52	5.20	4.45	5.57	4.05
c. Average Inflation						
- Respective Country	2.52	3.97	12.74	8.63	3.72	6.36
- Trading Partner, trade weighted	4.16	3.44	4.20	3.07	3.76	3.21
Observations (months)	84	84	84	84	84	84

Sources: IFS, SFS, DOTs, Individual central bank's annual report, various publications, positive is appreciation.

7. Singapore's REER is weighted by 14 trading partner countries (US, Malaysia, Japan, Hong Kong, Thailand, Taiwan, Germany, Indonesia, Korea, China, UK, France, Netherlands, and Philippines) representing 82.8 percent of Singapore's total international trade, average ratio between 1990-98.
8. Malaysia's REER is weighted by 13 trading partner countries (Japan, US, Singapore, Taiwan, Germany, UK, Korea, Hong Kong, Thailand, China, Netherlands, Indonesia, and Philippines) representing 83 percent of Malaysia's total international trade, average ratio between 1990-98.
9. Sri Lanka's REER is weighted by 16 trading partner countries (US, Japan, UK, India, Hong Kong, Korea, Germany, Belgium, Singapore, Taiwan, Netherlands, Malaysia, China, Italy, Thailand, and France) representing 69.8 percent of Sri Lanka's total international trade, average ratio between 1994-98.
10. Indonesia's REER is weighted by 14 trading partner countries (Japan, US, Singapore, Germany, Taiwan, China, UK, Netherlands, Hong Kong, Malaysia, Italy, Thailand, and India) representing 78.8 percent of Indonesia's total international trade, average ratio between 1990-98.
11. Taiwan's REER is weighted by 14 trading partner countries (US, Japan, Hong Kong, China, Germany, Singapore, Korea, Malaysia, Netherlands, UK, France, Thailand, Indonesia, and Philippines) representing 80 percent of Taiwan's total international trade, average ratio between 1990-98.
12. Korea's REER is weighted by 13 trading partner countries (US, Japan, China, Hong Kong, Germany, Saudi Arabia, Singapore, Indonesia, Taiwan, Malaysia, UK, Thailand, and France) representing 70.6 percent of Korea's total international trade, average ratio between 1993-98.

Graph 3.2: The Distribution of Singpore's REER Changes Kernel Density (Normal, h = 0.9097)

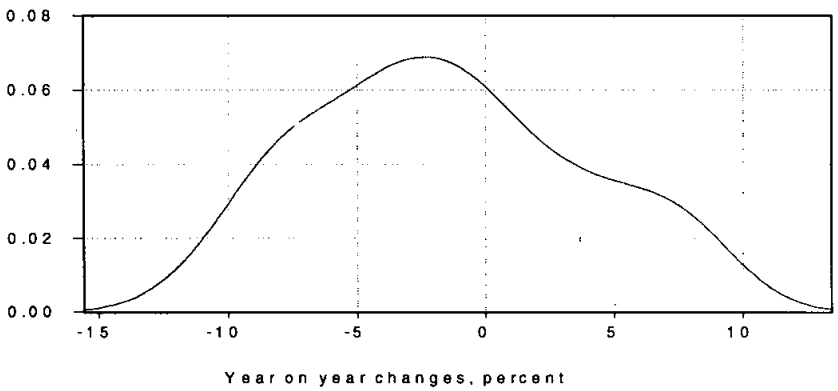


tributed toward strong Singapore's economic fundamental in terms of high economic growth rate and low inflation rate. There were no sign of overheating economy in Singapore during this period concern due to high ratio domestic savings to GDP (46.2 percent at annual average) and high ratio of overall budget surplus to GDP at annual average of 6.7 percent. Although Singapore does not target monetary aggregate, the real money supply growth in that period was much lower compared any other SEACEN member country targeting monetary aggregate. Again, high coefficient of marginal propensity to save and more efficient of capital productivity did help a lot monetary authority in maintaining price stability.

Taiwan's exchange rate policy during this period had revealed greater flexibility as compared to other members under this exchange rate regime. The standard deviation of its NEER or REER was the highest amongst member country. Taiwan had tried to maintain export competitiveness through nominal depreciation and lowering domestic inflation rate relative to its trading partners. The success of Taiwan's authority to minimize the impact of depreciation on domestic inflation could be revealed the balance between the occurrence of depreciation and appreciation. The distribution of NEER changes exhibited that 58 percent of total observation had exemplified depreciation and 42 percent disclosed appreciation against trading partner. The lower domestic inflation rate relative to its trading partners had made Taiwan export was more competitive in term of relative changes of REER. The monthly

changes of REER, both for depreciation and appreciation, were nicely distributed. In term of REER index, however, Taiwan export had performed the least competitive among country under managed floating regime, especially during 1990-95. This had influenced the export performance. Its export had only grown at 8.4 percent per year during 1990-96, the lowest amongst member under this exchange rate regime. The declining long-term trend of Taiwan's REER index against its trading partner, and the ability to preserve lower domestic inflation relative to trading partner, had brought Taiwan export as the most competitive in 1996.

Graph 3.3: The Distribution of Taiwan's REER Changes Kernel Density (Normal, h = 1.9591)

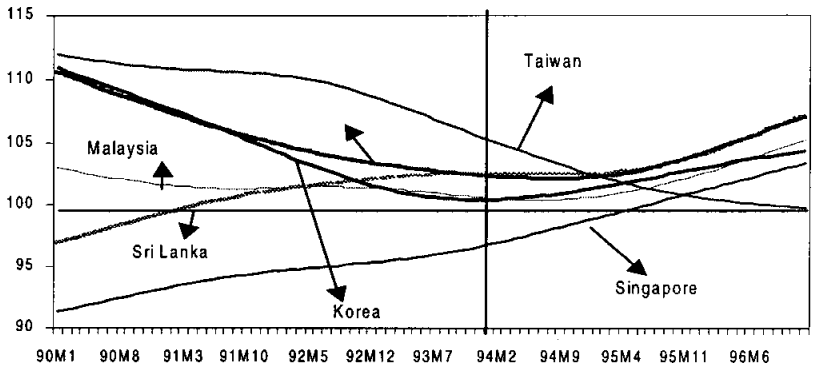


During 1990-96 Taiwan had undertaken considerable surplus of trade balance and current account, accounted for 6.5 percent and 4.6 percent of GDP respectively. The huge current account surplus had stimulated for Taiwan's investors to invest abroad averaging at 3.3 percent of GDP per annum during the period concerned. Taiwan's overall balance of payment had still performed significant surplus so that international reserves had been built up, witnessed at 41.7 percent of GDP on average. Taiwan's trade dependency ratio averaged at 75 percent of total trade and its nominal GDP was at US221 billions dollar, the second largest after Korea. The choice of managed floating exchange regime, therefore, did not based on the economy openness or international size considerations. The economy size substance had most

likely influenced to pursue the managed floating exchange rate regime under this period.

Under stable exchange rate and significant positive saving-investment gap, Taiwan economy grew at sustainable rate at 6.3 percent with a low rate of domestic inflation at 3.7 percent, per annum respectively. High level of income per capita had encouraged Taiwanese people to enjoy their consumption as indicated at high coefficient of marginal propensity to consume (0.82 on average). Although Taiwan has high consumption level, the ratio domestic saving to GDP was still relatively high at 27.8 percent, much higher than ratio investment to GDP at 23.2 percent per annum respectively. Under substantial positive investment gap, ample international reserves, and stable exchange rate, strong demand of domestic consumption and significant overall government budget deficit had not given significant pressures on domestic prices as aggregate supply could be adjusted in relatively short term. The overall budget deficit reached at annual rate of 3.61 percent of GDP. Moreover, relatively stable velocity of broad money in Taiwan had facilitated the authority in controlling monetary aggregates. Growth of real M2 during that period was 10.6 percent per annum, much lower as compared other SEACEN country.

Graph 3.4: The Development of Long-Term Trend of REER Index Under Managed Floating Regime, Before 1990-96, 1995 = 100



Sri Lanka exchange rate policy had been intended for improving the export competitiveness by generating consistent nominal depreciation against its trading partner. About 96 percent of total observation, its NEER had depreciated at –6.4 percent on average. Nevertheless, because of significantly higher domestic inflation, Sri Lanka's export had performed less competitive, as compared to most member country under managed floating regime in term of relative changes and REER index level. In term of relative changes, its REER had demonstrated a net appreciation at 1.7 percent on average, second highest after Singapore. Moreover, Sri Lanka's average inflation was almost three times as high as its trading partner's trade weighted inflation. The long-term trend of Sri Lanka's REER index, then, moved toward appreciation, signifying lower export competitiveness.

During the period, Sri Lanka's current account deficit had accounted for 4.6 percent of GDP on average, mainly due to persistent trade deficits. The deficits had been funded through official capital inflows with the ratio to GDP of 3.3 percent on annual average, and private capital inflows accounted for 2.7 percent at annual average. Even, Sri Lanka's overall balance of payment had been in surplus. On the light that long-term private capital inflows and FDI revealed a significant ratio to GDP (1.6 percent on annual average), Sri Lanka's balance of payment seemed to be sustainable against external disturbances. The better shape of Sri Lanka's balance of payment had significantly supported the authority to minimize the negative impacts of external shocks.

However, high ratio of government budget deficit and high coefficient of marginal propensity to consume had eroded the effectiveness of government policy in curbing down domestic inflation. The domestic inflation rate recorded at 12.2 percent per annum, relatively higher compared other SEACEN country. Government budget deficits averaging at 9.5 percent of GDP per annum during that period, had been financed through by official capital inflows of 4.3 percent of GDP, and domestic financing of 5.2 percent of GDP. Marginal propensity to consume was very high at 0.83 at annual average. Enormous government budget deficits had further created negative government savings that, in turn, shrink the ratio domestic savings to GDP, at annual rate of 14.8 percent. Although, ratio investment to GDP was relatively low, the productivity of capital was fairly high so that Sri Lanka's real economic growth rate had been steady at 5.3 percent per annum during the period. During 1990-93, Sri Lanka's economy had under-

gone economic booming embodied at high growth rates of investment, nominal broad money, and domestic inflation.

The economy of Sri Lanka is more open. Its trade ratio to GDP reached 64 percent on annual average, higher that that in Indonesia, Philippines, and Korea. The more open Sri Lanka's economy had been able to attract more capital inflows in a way of financing its trade deficits, and, at the same time, could built up significant international reserves recorded at 12.3 percent of GDP per annum. Sri Lanka's nominal GDP was US11 billions dollar, the third smallest after Mongolia and Nepal. The economy openness and size considerations did not motivated Sri Lanka authority to opt fixed exchange rate regime. Rather, the low international reserves in absolute term, averaged US1.4 billions dollar, had influenced the authority to pursue managed floating exchange rate regime. Moreover, relatively small short-term private capital inflows, roughly 0.9 percent of GDP, had reduced risks of sudden capital outflows so that the position of balance of payment is reasonably sustainable and, thus, the managed floating exchange rate regime that had been instigated since November 1997 till now.

Indonesia and Korea had experienced net depreciation against their trading partners, in both nominal and real terms. The relative REER changes of both countries revealed similar pattern and showed significantly high correlation coefficient. Exchange rate policy of the two countries had been managed as such to maintain export competitiveness and reasonable domestic inflation rate. About 70-80 percent of total observations had indicated depreciation in nominal terms against their trading partners, at –6.8 percent in Indonesia and –5.4 percent in Korea, on average respectively. However, substantially higher domestic inflation as compared to trading partners' inflation had worsened export competitiveness of both countries. But, in term of relative changes of REER, they had still exposed a net depreciation against trading partner, at -0.2 percent in Indonesia and -0.5 percent in Korea, on average per month. In term of long-term trend, both countries had been able to maintain export competitiveness, especially during 1990-95 as shown at declining long-term trend of REER Index. But, from the last quarter 1995 to 1996, the long-term trend of REER index began to rise, worsening their export competitiveness.

Table 3.4: Macroeconomic Performance Under Managed Floating Exchange Rate Regime: Before Crises 1990-96, As ratio to GDP otherwise stated, percent At 1995 constant prices for GDP figure

Indicators	Singapore	Malaysia	Sri Lanka	Indonesia	Taiwan	Korea
Balance of Payments:						
Export growth, nominal	16.11	17.85	15.04	12.31	8.44	11.53
Import growth, nominal	15.08	20.09	13.78	15.26	10.26	14.57
Trade Balance	-1.10	-0.85	-11.13	3.85	6.51	-1.09
Current Account	12.31	-5.96	-4.61	-2.59	4.26	-1.67
Capital & Financial Bal.	-0.62	9.70	6.09	4.38	-3.47	2.36
- Official Cap. Inflows	na	-0.10	3.34	0.47	na	-0.12
- FDI	4.84	6.58	1.61	1.57	-0.85	-0.26
- Portfolio Investment	-5.45	na	0.24	2.34	0.03	1.8
- Other long term Invest.	0.09	na	0.64	na	na	0.94
- Short term investment	na	3.23	0.9	na	na	na
- Other Investment	na	na	na	na	-2.46	na
Overall BOP	11.68	3.75	1.47	1.79	0.79	0.69
International Reserves	77.83	30.76	12.31	8.09	41.67	5.87
Macroeconomic Performance:						
Real GDP growth	8.9	8.82	5.26	7.25	6.32	7.66
M2 , real growth, yoy	7.54	13.23	6.62	14.43	10.64	8.9
Inflation, yoy	2.52	3.97	12.74	8.63	3.72	6.36
Income velocity, std. dev.	0.07	0.13	0.22	0.17	0.06	0.09
GDP deflator changes, yoy	3.99	4.36	11.46	10.09	3.08	7.67
Investment/GDP , nom	34.85	25.56	24.56	32.47	23.6	37.43
Dom. Savings/GDP, nom	47.15	32.11	14.85	29.88	27.77	36.04
Capital Productivity	33.4	47.26	60.42	47.65	37.07	36.43
MPC	0.41	0.54	0.83	0.7	0.82	0.67
Private S-I Gap/GDP	2.65	-9.98	-4.06	-6.34	12.71	-4.8
Gov. S-I Gap/GDP	9.65	3.97	-5.65	3.76	-8.55	3.41
Gov. Savings/GDP	14.23	16.75	-2.04	9.73	2.43	8.41
Overall gov. budget/GDP	6.17	-0.24	-9.54	1.24	-3.73	0.08

Sources: IFS, SFS, Individual central bank's annual Report, various publications.

During 1990-96, Indonesia consistently had run current account deficits, predominantly due to deficit in net service balance, reaching at 7 percent of GDP per annum. Yet, trade balance was always positive at 3.9 percent of GDP on average. The current account deficit during that period was 2.6 percent of GDP per annum and had been covered mainly by private capital inflows: in terms of FDI and private portfolio investment, averaging at 1.6 percent and 2.3 percent of GDP respectively. The larger capital inflows than it was required to finance current account deficit had earned surplus overall balance of payments. Under managed floating exchange rate regime, the surplus could not be smoothly transmitted into nominal exchange rate appreciation as the exchange rate policy is designed to boost export without jeopardizing the domestic inflationary pressures.

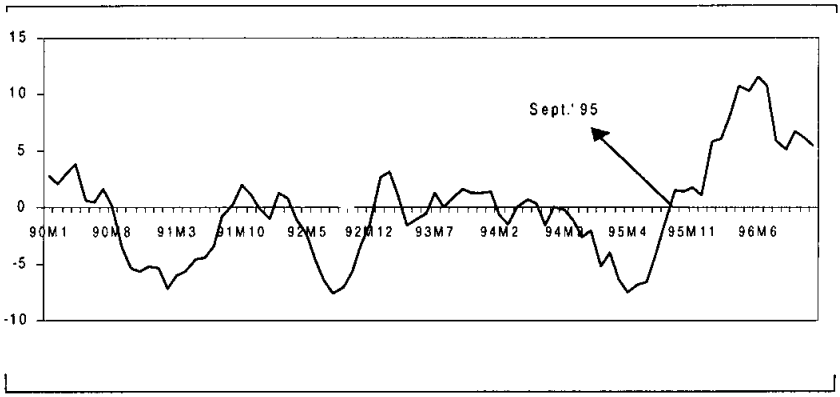
During the period concerned, the Indonesian economy had been colored by high economic growth rate, at 7.3 percent per annum, but; accompanied by a relatively high domestic inflation, averaging at 8.5 percent. High ratio domestic saving to GDP, nearly at 30 percent at annual average, and increasing productivity of capital were attributable to the achievement of high economic growth rate during that period. The higher ratio investment to GDP, reached at 32.5 percent, as compared to saving ratio had forced Indonesia authority to run current account deficit, at 2.5 percent of GDP on average, to achieve higher economic growth. In 1995, Indonesian economy had overheated; the domestic demand pressures were very strong as indicated at high ratio investment to GDP, reached at 37.7 percent. The central bank's efforts to control domestic inflation had even become more difficult on the light of unstable velocity of money environment. The annual growth of broad money during that period was quite high at 25.8 percent per annum. Fortunately, fiscal policy was sufficiently coordinative to the prevailing monetary policy stance. High government budget surplus, leading to significant government savings, had helped authority in a way of curbing down the domestic inflation. The relatively more stable NEER under managed floating exchange rate regime had facilitated the authority to minimize the direct exchange pass-through to inflation. However, too much rely on private capital inflows, accounted for 2.3 percent of GDP, had brought unsustainable Indonesia's balance of payment against short-term external vulnerability, such as speculative attacks.

During 1990-96, Indonesian is open economy, although its trade dependency ratio, 44 percent, was less than that 68 percent in Thailand, 64 percent in Sri Lanka and 55 percent in Philippines. The more open economy, the more preference to select fixed exchange rate regime was not the case for Indonesia. Rather, the low international reserve level and large economy size considerations had stimulated the Indonesia authority to pursue the managed floating exchange rate regime during this period concerned. During the period, Indonesia's GDP stood at almost US160 billion dollar on average, the third largest GDP after Korea, and Taiwan.

Under managed floating regime, Korea's current account was deficit at 1.7 percent of GDP on average during this period. The deficit occurred in both trade balance and service balance[13]. Huge private capital inflows, accounted for 2.7 percent of GDP, had been made use of covering the deficit, and, even, it had generated sizeable surplus in Korea's overall balance of payment. This, to large extent, had stirred the Korea's NEER appreciation against its trading partners, especially during mid 1995 to mid 1996. The international reserves had been maintained at almost 6 percent of GDP per annum, lower than that in previous period under basket peg currency, 1985-89, averaging at 7.2 percent per annum. Under managed floating regime, Korea had experienced economic booming. High investment ratio to GDP, recorded at 37.4 percent per annum, accompanied by high ratio of domestic saving to GDP, 36 percent, had boosted Korea's economic growth rate at 7.7 percent, with a modest rate of domestic inflation 6.3 percent. The relatively strong domestic demand and the tendency of Korean's NEER to depreciate, especially during 1990-93, had created inflationary pressures. The inflationary impacts, nevertheless, had been subtle through large overall government budget surplus and stable velocity of money. The declining trend of capital productivity and the increasing trend of marginal propensity to consume had overshadowed the macroeconomic achievement during that period. Furthermore, relying on huge private short-term capital inflows in financing saving-investment gap had shaped the Korea's balance of payment to be more vulnerable against sudden capital outflows.

13. This was contrast with previous period under peg basket regime, 1985-89, in which Korea's current account was surplus at 4.3 percent of GDP per annum, average between 1990-98

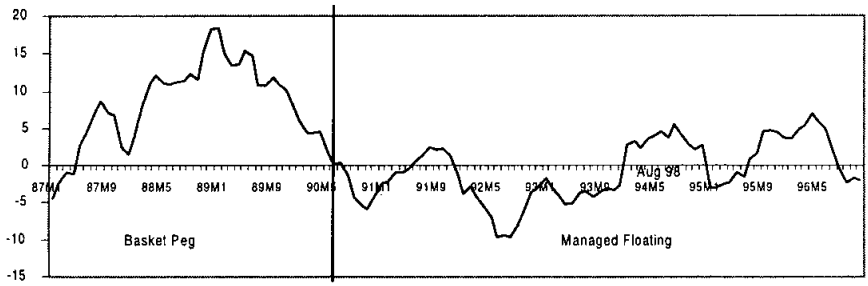
Graph 3.5: The Development of Indonesia's REER Changes (percent yoy) Under Managed Floating Regime, Before Crises: 1990-96, 1995=100



Korea is large open economy, though its trade dependency ratio was only 50 percent of GDP, slightly higher than Indonesia's. Korea's nominal GDP leveled at US374 billions dollar, the largest economy size amongst SEACEN country. Korea's relative international reserves displayed the smallest ratio to GDP, at 6 percent of GDP. The economy size and lower international reserves considerations might had equipped the authority to stay on the managed floating exchange rate regime that had been applied since March 1990.

During 1990-96, Malaysia's exchange rate policy was aimed at promoting export competitiveness and maintaining low domestic inflation rate. This corresponded to the balance between the occurrence of depreciation and appreciation under the period of observation. The

Graph 3.6: The Development of Korea's REER Changes (percent yoy) Under Basket and Managed Floating Regime, Before Crises: 1987-96 (1995=100)

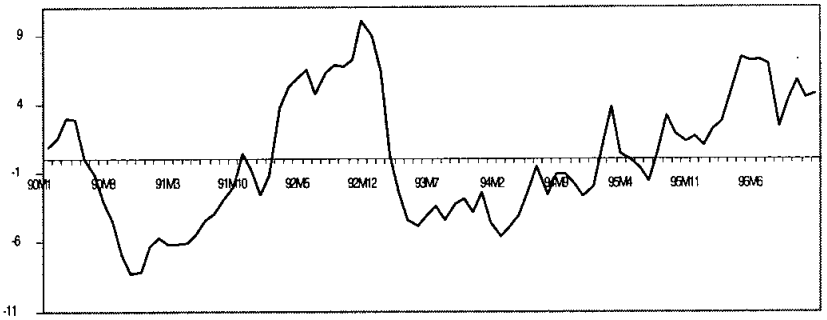


occurrence of NEER depreciation was about 58 percent of total observation, at the mean of –3.7 percent, whereas, the occurrence of appreciation was 42 percent at 3.75 percent. In total, Malaysia's NEER had showed a net depreciation at 0.6 percent per month on average. However, as trading partner's trade weighted inflation rate was lower than domestic inflation, Malaysia's REER had appreciated, but at small rate of 0.04 percent per month. During 1990-95, as in Indonesia and Korea, the Malaysia's REER index had performed a declining trend, signifying the improving export competitiveness. Afterward, however, the index shifted to a increasing trend so that Malaysia's export was less competitive against its trading partners. As a result, Malaysia's export growth drastically dropped in 1996 to at 6 percent, as compared to nearly 20 percent per annum during 1990-95.

Malaysian government had run large current account deficit, at annual average of nearly 6 percent of GDP, and mostly had been financed through private capital inflows. Private capital inflows, however, was dominated by long term private FDI (6.6 percent of GDP per annum), while short-term private capital inflows accounted for 3.2 percent of GDP per annum. The high ratio of long-term private capital inflows had served the Malaysia government to preserve the export competitiveness in longer term. The export competitiveness during 1990-95 in particular, combined with high ratio of domestic savings to GDP and high productivity of capital, had shaped strong economic fundamental, in terms of high economic growth at 8.8 percent, and low inflation at almost 4 percent, on average respectively. Ratio domestic savings to GDP under the period concerned stayed at 32.1 percent, of which government savings accounted for 16.8 percent: the highest ratio among SEACEN country members. The success of authority to attract capital inflows had mounted Malaysia's international reserves up to 30.8 percent of GDP on average. The signs of overheating economy also emerged in Malaysian economy, especially in 1994-96, denoted by high investment ratio to GDP, high growth rates of import, and nominal M2. Nonetheless, the effect on general inflation, measured by changes of GDP deflator index, was quite moderate thanking to high marginal propensity to save.

Malaysia is the second most open economy, after Singapore, amongst SEACEN country. Its trade dependency ratio was only 152 percent of GDP, Malaysia's nominal GDP stayed on US68 billions dollar, about the same as in Singapore. Malaysia's relative international reserve was at 31

Graph 3.7: The Development of Malaysia REER Charges (percent yoy) Under Managed Floating Regime, Before Crises 1990-96, 1995=100



percent of GDP. The economy size and lower international reserves considerations might had equipped the authority to stay on the managed floating exchange rate regime that had been applied since March 1990. The economy openness and international reserve considerations did not encourage Malaysia authority to practice fixed exchange regime during this period, rather, economy size significance had influenced the authority to select managed floating exchange rate regime

During seven years before crises, 1990-96, countries under managed floating exchange rate regime had enjoyed some glorious moment. Exchange rate policy had been successfully managed in sustaining export competitiveness without endangering domestic inflationary pressures. In Singapore case, its monetary policy framework had employed NEER as undisclosed operating target in achieving price stability. Under this framework, the NEER must be strictly managed to meet the target. As the most open economy amongst members, its trade dependency ratio averaged at 274 percent, domestic price stability means also the price stability of traded goods. That is why the MAS (Monetary Authority of Singapore) requires strong Singapore's currency to contain imported inflation. The MAS had been productively applied the exchange rate policy within such monetary policy framework. This means that the NEER volatility must be consistent with domestic price fluctuation. The only way to improve export competitiveness, then, is to lower domestic inflation relative to trading partners' trade inflation. Singapore REER index had revealed as the most competitive amongst SEACEN members, but with an increasing trend, especially during 1990-1995. Due to the increasing trend, Taiwan's REER with a declining trend, had replaced it as the most competitive in 1996.

Other country members had employed base money as operating target in attaining the domestic price stability, leaving exchange rate policy as an additional tool to support the ultimate target whenever it is necessary. Therefore, there is no official and definite target of exchange rate, both in term of NEER or bilateral exchange rate, other than undisclosed certain exchange rate band. The main function of exchange rate is to preserve export competitiveness without jeopardizing domestic inflationary pressures, and to maintain business confidence. Taiwan and Malaysia, the other most open economy within SEACEN members, had disclosed some interesting features in this respect. Taiwan's REER index had been robustly headed for obtaining a declining trend in a way of improving export competitiveness, from the least competitiveness in 1990 to the most one in 1996. To minimize the direct impact on domestic inflation, the occurrence of depreciation and appreciation was made in balance so that in net term, the NEER changes only revealed small depreciation. This kind of strategy had also been executed in Malaysia by forming relatively flat long-term REER index in way of upholding long-term export competitiveness and minimizing direct impact on domestic inflation. This kind of strategy, however, was back up by relatively high ratio international reserves to GDP: 42 percent in Taiwan or equivalent to US92 billions dollar and 31 percent in Malaysia or equivalent to US21 billions dollar, on average respectively. By this kind of strategy, Taiwan and Malaysia had been able to maintain low rate of domestic inflation, although it slightly higher than its trading partner in the case of Malaysia.

Korea, Indonesia, and Sri Lanka had done slightly different strategy in preserving export competitiveness. They tended to carry out more frequent NEER depreciation against their trading partners, in a way of improving export competitiveness. Consequently, they portrayed relatively higher domestic inflation as compared to Singapore, Taiwan, and Malaysia. As higher domestic inflation would reduce export competitiveness, in general, Singapore, Taiwan, and Malaysia had been able to maintain better export competitiveness level against Korea, Indonesia, and Sri Lanka during 1990-96. In more open economy, maintaining export competitiveness through lower domestic inflation is more effective rather than through large depreciation.

The more open economy had productively attracted more capital inflows in a way of funding the current account deficits. However, the composition of capital inflows had important influence for preserving

export competitiveness in the longer term. Long-term capital inflows in the forms of FDI, official capital inflows, and other private long-term capital inflows would be able to uphold against sudden external disturbances and would facilitate the authority to stay on the prevailing exchange rate regime, thus, protecting business confidence. Larger portion of short-term capital inflows tends to make balance of payment position more vulnerable toward external shocks, then, build great difficulty in maintaining the current exchange rate regime as well as in keeping on business confidence. Under managed floating exchange rate regime, there is no smooth correlation between surplus overall balance of payment and NEER appreciation. Under managed floating exchange rate regime, the surplus must be sterilized in order to retain the NEER movement within certain band, so that the pressure of appreciation is limited, export competitiveness is restored. Malaysia, Korea, and Indonesia had been able to do this during 1990-94. But, if the surplus is so large and domestic monetary policy has limitation to absorb it, the REER shall appreciate and export competitiveness is worsened. Subsequently, it is difficult for authority to bring the NEER within certain band, meaning that managed floating exchange rate regime could not be defendable anymore This occurred during mid 1994-96 when Malaysia, Korea, and Indonesia had experienced increasing trend of REER. The 1995 overall balance of payment surplus amounted to US8.3 billions dollar in Korea and US4.3 billions dollar in Indonesia. The 1996's overall balance of payments surplus was at US5.3 billions dollar in Malaysia and 3.3 billions dollar in Indonesia.

c. Independent Floating Exchange Rate Regime: Before Crises, 1990-96

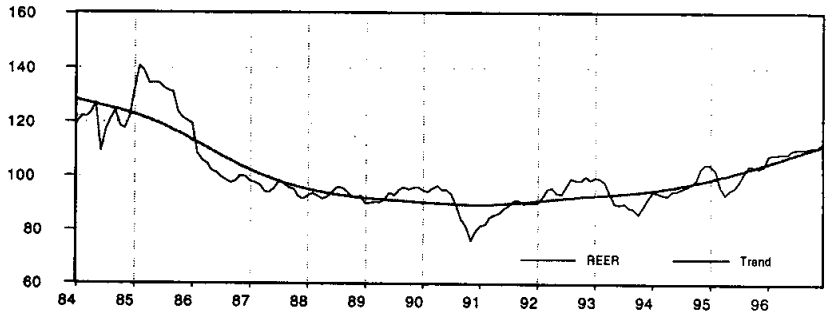
Philippines had instigated independent floating exchange rate regime since December 1984, the longest experienced country amongst SEACEN members. Under this regime, the authority had no exchange rate target whatsoever, and only intervened the market whenever it was necessary. Consequently, its NEER volatility was the highest as compared to basket peg and managed floating regime countries. Philippines had been used to with high exchange rate volatility. During 1990-96, in term of REER index, Philippines had showed the most competitive country amongst members, together with Singapore[14]. Under that pe-

14. Philippines' REER is weighted by 11 trading partner countries (US, Japan, Taiwan, Singapore, Hong Kong, Germany, Korea, UK, Indonesia, Malaysia, and Thailand) representing 77.8 percent of Philippines' total international trade, average ratio between 1990-98.

riod, the export had escalated at 15.1 percent per annum, except 1991 when export growth tumbled at the lowest level at 1.3 percent as the economy was in recession.

In term of relative changes, nonetheless, Philippines' export had proved the least competitive country due to higher domestic inflation as compared to its trading partners. The Philippines, average inflation was 10.3 percent during that period while its trading partners' inflation was just 3.3 percent. In nominal term, about 60 percent of total observation indicated that Philippines' NEER had depreciated against its trading partners, with the mean of –9.4 percent. In real term (REER), nevertheless, it had uncovered a net appreciation at 2.8 percent on average, due to higher domestic inflation relative to its trading partners. The tendency of Philippines nominal exchange rate to depreciate against trading partners had brought some implications on high domestic inflation. Furthermore, more exchange rate volatility under independent floating regime had engendered domestic inflationary pressures; that in turn, deteriorated the Philippines competitiveness. Therefore, keeping inflation under control is very important in maintaining sustainable export competitiveness in the longer term.

Graph 3.8: Long-Term Trend of Philippines REER Index, Before Crisis 1984-90, 1995=100



Under independent floating exchange rate regime, any substantial surplus in overall balance of payment shall appreciate exchange rate, as the central bank has no official obligation to defend such the prevailing exchange rate. The Philippines' surplus overall balance of payment during 1990-95 was so small, averaging at only 1.3 percent of GDP or equivalent to 0.7 billions dollar. About one-third of total observation during the period had displayed appreciation and two third of it had exhibited depreciation. So, the appreciation pressures during this period was small, in fact, the NEER had performed a net depreciation at 4,7 percent on average. The surplus in 1996, however, was so huge accounted for US3 billions dollar or equivalent to 3.5 percent of GDP. Under independent exchange rate system, the BSP does not require to execute sterilization policy to absorb the immense surplus, instead, allowing the peso to appreciate and depreciate at market rate. Hence, in 1996 Philippines' NEER and REER appreciated at 3 percent and 9.7 percent respectively. The worsening export competitiveness in 1996 had diminished export growth from 32 percent in 1995 to 16.5 percent in 1996.

Philippines's current account balance was always deficit during the period, averaging nearly at 4 percent of GDP. The deficits was essentially due to enormous deficit in trade balance recorded at 10.6 percent of GDP, and large deficit in government saving-investment gap accounted for 2.2 percent of GDP, on average. Net service balance had exhibited high surplus at 5.2 percent of GDP. For the most part of current account deficit was covered by FDI and long-term investment, accounted for 1.5 percent and 2.3 percent of GDP respectively. The ratio of short-term private capital inflows was minor, at 0.6 percent of GDP so that the Philippines balance of payment was reasonably immune against short-term fluctuation of capital flows. The steady surplus in overall balance of payment had produced significant increase in Philippines international reserves accounted for 10.2 percent of GDP per annum.

Table 3.5: Philippines' Macroeconomic Performance Under Independent Floating Regime: Before Crises 1990-96, as ratio of GDP, otherwise stated, At 1995 constant prices for GDP figure (percent)

Balance of Payment (Percent of GDP, otherwise stated)	Annual Average	Other Macroeconomic Performance	Annual Average
Export growth, nominal	15.04	Real GDP growth	2.83
Import growth, nominal	17.62	M2 , real growth, yoy	8.98
Trade Balance	-10.64	Inflation, yoy	9.45
Current Account	-4.08	Income velocity std. dev.	0.51
Capital & Financial Bal.	5.98	GDP deflator changes, yoy	9.92
- Official Cap. Inflows	0.00	Investment/GDP, nom	22.89
- FDI	1.53	Dom. Savings/GDP, nom	18.81
- Portfolio Investment	0.51	Capital Productivity	50.16
- Other long term Invest.	2.32	MPC	0.79
- Short term investment	0.56	Private S-I Gap/GDP	-1.97
- Other Investment	0.00	Gov. S-I Gap/GDP	-2.22
Overall BOP	2.22	Gov. Savings/GDP	5.56
International Res. , gross	10.19	Overall gov. budget/GDP	-0.91

Sources: IFS, SFS, DOTs, Individual central bank's annual Report, various publications.

The Philippines' average economic growth was relatively low during that period, stood at 2.8 percent per annum, due to relatively low level of domestic saving which accounted for 19 percent of GDP. Ratio investment to GDP averaged nearly 23 percent of GDP during that period and the productivity of capital showed at still high rate. Domestic inflation was quite high, averaging at 9.5 percent per annum. Relatively high marginal propensity to consume, unstable velocity of money and high volatility of exchange rate had made the authority more difficult to contain inflation. To some extent, overall government budget deficit during 1990-93 also had contributed to high domestic inflation.

Philippines is reasonably open economy, its average trade dependency ratio was only 55 percent of GDP, higher than Indonesia and Korea. Philippines's nominal GDP leveled at US60 billions dollar. Philippines's relative international reserve was 10 percent of GDP. The economy size and lower international reserves considerations might had equipped the authority to stay on the independent floating exchange rate regime that had been applied since December 1984.

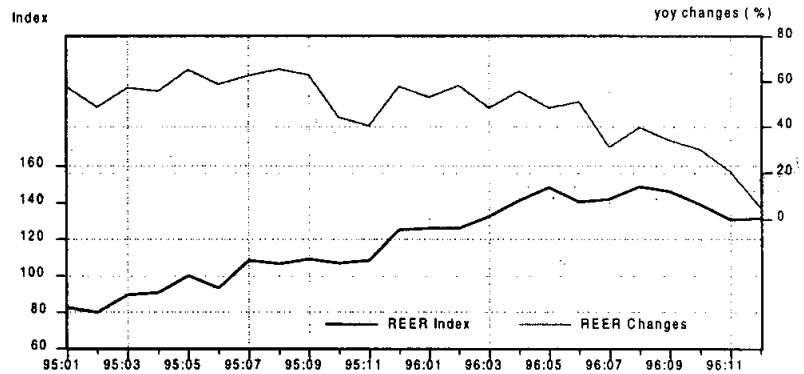
Mongolia had employed independent floating exchange rate regime for since May 1993. During period mid 1995-96, the occurrence of depreciation did not much differ with that of appreciation. About 58 percent of total observation had showed NEER's depreciation with the mean at –10.13 percent, while 42 percent had exposed NEER appreciation with the mean at 14.6 percent. However, due to substantially higher domestic inflation relative to its trading partners, Mongolia's REER had experienced a net appreciation at nearly 48 percent on average[15]. The average domestic inflation during that period was 62.2 percent, much higher than trade weighted trading partners' inflation, at 7.4 percent. This had affected Mongolia's international trade competitiveness as shown at negative export growth rate at –10.4 percent in 1996.

During 1993-96, however, Mongolia's trade balance ratio to GDP, still exhibited a net surplus at 4.7 percent per annum due to sizeable drop in import growth in 1993-94. During that period, current account balance also showed a net surplus at 3.4 percent per annum, although it had deficit in 1996. This surplus had been able for Mongolia authority to accumulate international reserves at 12.2 percent of GDP on annual average. Mongolia economic growth was quite low on average of nearly 2 percent per year after the economy contracted at 3 percent in 1993. Low ratio of domestic savings to GDP had influenced the achievement of economic growth. Domestic inflation exhibited very high averaging at 88.1 percent per annum during that period concerned, due to large nominal depreciation of tugrik. The Monetary authority had conducted tight monetary policy to curb down inflation indicated by negative growth of real money balance at 3.6 percent on average. The tight monetary policy had been able to bring down inflation rate from 183 percent in 1993 to 40.6 percent in 1996. However, high volatility Mongolia's NEER and REER, and unstable velocity of money during that period had hindered the authority in curbing down domestic inflation.

Mongolia is very open economy in term of trade dependency ratio to GDP. Its ratio averaged at 111 percent of GDP, the third most open

15. Mongolia's REER is weighted by 11 trading partner countries (Russia, China, Japan, US, Germany, Kazakhstan, Italy, UK, SIngapore, Hong Kong, and France) representing 93.3 percent of Mongolia's total international trade, average ratio between 1993-97.

Graph 3.9: Mongolia REER Index and Changes 1995-96, 1995=100



economy after Singapore and Malaysia. Mongolia's nominal GDP leveled at US0.8 billions dollar on average and its relative international reserve was 12 percent of GDP or equivalent to US0.09 billions dollar. The economy openness and size did not motivate the Mongolia's authority to choose fixed exchange rate since May 1993-now. Rather, the low absolute level of its international reserves might had equipped the authority to stay on the independent floating exchange rate regime that had been applied since May 1993.

II. Macroeconomic Performance in the SEACEN Countries: After Crises, 1997-99 (May)

1. Basket Peg Exchange Rate Regime: After Crises

After the crises, Nepal continued to stay on basket peg exchange rate regime whilst Malaysia moved to capital control and single peg exchange rate regime since September 1998. Before executing the peg exchange rate regime, 1997 to September 1998, Malaysia's exchange rate against trading partners had experienced large depreciation and high volatility. Its REER had depreciated at –10.4 percent on average, the fourth largest depreciation after Indonesia, Korea, and Thailand. Due to relatively lower domestic average inflation, Malaysia had been able to preserve its export competitiveness against its trading partner after Indonesia and Korea.

Table 3.6: The Average Changes of REER Index Under Basket Peg Exchange Rate Regime: After Crises 1997-99, 1995=100

Items	Nepal	Malaysia	
		1997-Sep. 98	Oct.98-Mei.99
a. Nominal Effective Exchange Rate			
- Mean	-0.99	-10.92	-3.66
- Mean of depreciation	-2.27	-18.99	-4.92
- Mean of appreciation	2.37	5.21	6.40
- Standard deviation	6.47	13.21	4.51
b. Real Effective Exchange Rate			
- Mean	3.14	-10.42	-0.08
- Mean of depreciation	-1.19	-18.46	-5.11
- Mean of appreciation	4.93	5.67	3.95
- Standard deviation	4.01	13.16	6.05
c. Average Inflation			
- Respective Country	7.25	3.77	6.1
- Trading Partner, trade weighted	3.69	2.57	2.30
Observations (month)	24	21	8

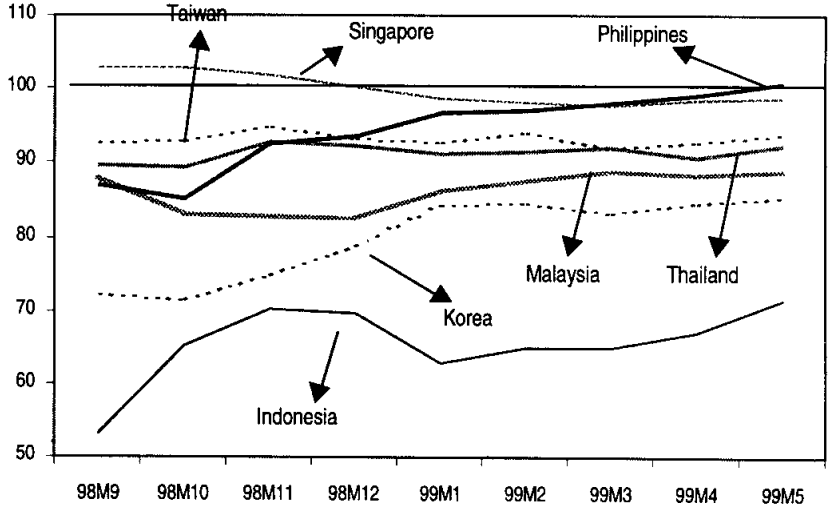
Sources: IFS, SFS, Individual country's annual report, various publications, positive is appreciation.

After instigating fixed exchange rate regime, October 1998 to May 1999, Malaysia's REER volatility measured by standard deviation had greatly reduced, from 13.2 percent previous period to 6 percent. The volatility was much lower than that in Indonesia, Korea, Thailand, and Philippines; but still higher than that in Taiwan, Nepal, Singapore, and Sri Lanka. Because of fixed exchange rate and increasing domestic inflation, Malaysia's REER during this period was becoming less competitive as compared to the previous period. This increasing trend of REER, nonetheless, had also taken place in most SEACEN countries, except Singapore, with even bigger appreciation. In term of relative changes, Malaysia's REER had exhibited a tiny net depreciation at -0.08 percent, whereas Indonesia, Thailand, Korea had experienced sizeable net appreciation, between 8 to 18 percent. I this sense, Malaysia had gained some export competitiveness escorted by exchange rate stabil-

ity, that, in turn, building up the business confidence. Other countries, however, had endured exchange rate adjustment: from large depreciation toward large appreciation; going along with high exchange rate volatility and lower business confidence. This short-term benefit might have given some good opportunities for Malaysia to accelerate its economic recovery in 1999. In the longer term, however, fixed exchange rate regime tends to be less competitive as compared to more flexible exchange rate regime.

Asian crises had detrimentally impinged on the Malaysian economy. As many other country members, Malaysia's current account had notably improved due to sizeable slump in import. Malaysia had also gone through huge short-term private capital outflows, reaching at –7.4 percent of GDP in 1998. Fortunately, Malaysia had still had positive long-term capital inflows: FDI and official inflows, at almost 4 percent of GDP, although, it was lower than last year figure at 8 percent of GDP. The significant plunge long-term capital inflows and private investment had adversely affected Malaysia's economic growth, recorded at –6.7 percent in 1998 as compared last year figure at 7.7 percent. The large scale of fiscal stimulus: high ratio of government investment and overall government budget deficits; and relatively high domestic saving both

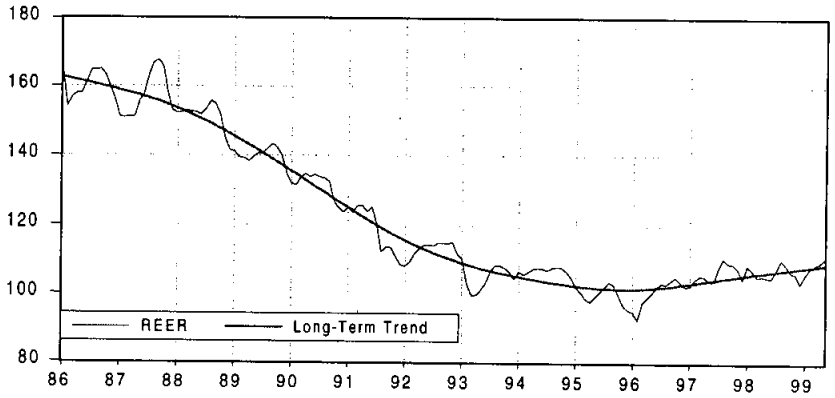
Graph 3.10: The Development of REER Index Between Malaysia and Independent Floating Regimes Countries, Sep '98 - May '99, 1995=100



private and government, had precluded further economic contraction in 1998. In monetary policy side, the authority had conducted very tight monetary policy in 1998, as shown at the contractive real broad money growth at –6.5 percent. General inflation rate, measured by the change of GDP deflator was at 8.5 percent in 1998 while average CPI inflation was at 5.3 percent.

During 1997-99 (May), Nepal exchange rate continued to depreciate against its trading partner in nominal term. The occurrence of NEER depreciation was quite significant, accounted for 72 percent of total observation the mean of –2.27 percent. In real term, however, higher domestic inflation had reduced the Nepal's export competitiveness. In term of relative changes, Nepal's REER had exposed a net appreciation at 3.1 percent on average. The long-term trend of Nepal's REER index level also specified an increasing trend, implying less export competitiveness against its trading partners. Beside Asian crises, the less export competitiveness had an impact on the declining Nepal's export growth to 9.7 percent in 1998, as compared to 15.1 percent in last year.

Graph 3.11: Long-Term Trend of Nepal's REER Index 1986-99, 1995=100



The Asian crises had unfavorably affected Nepal's economy. Nepal's trade balance was improved, from –23.1 percent of GDP in 1997 to –16.1 percent in 1998, mostly due to huge drop in import growth rate. The ratio current account deficit to GDP did not much improved because the deterioration of net service balance followed the improvement of trade deficit almost at the same rate. Nepal's capital account

was largely contained of official capital inflows, accounted for 3.2 percent of GDP in 1998. The crises had caused significant decline in private investment inflows at 1.7 percent of GDP, as compared to 4.7 percent in last year. The ample drop in private investment inflows had lowered the economic growth at 2.9 percent in 1998, as compared to 3.7 percent in last year. The expansive fiscal policy had helped authority to avoid further decline in economic growth. The overall government budget deficit was at 3.1 percent of GDP in 1998. However, expansive fiscal policy was not pursued by tighter monetary policy in a way of stabilizing domestic inflation. The real growth of broad money was reasonably high at 16.6 percent in 1998. The expansive of both fiscal and monetary policies combined with high coefficient of marginal propensity to consume had produced high domestic inflation, averaging at 9.4 percent in 1998, as compared to 4.2 percent in last year.

Table 3.7: Macroeconomic Performance Under Basket Peg Exchange Rate Regime: After Crises 1997-99, At 1995 constant prices for GDP figure

Indicators	Nepal		Malaysia	
As ratio to GDP otherwise stated, percent	1997	1998	1997	1998
Balance of Payment:				
Export growth, nominal	15.13	9.72	0.27	-6.94
Import growth, nominal	6.08	-21.30	0.16	-25.92
Trade Balance	-23.07	-16.06	-0.02	20.97
Current Account	-5.49	-5.62	-5.75	13.20
Capital & Financial Bal.	7.96	4.89	2.21	-3.50
- Official Cap. Inflows	3.27	3.15	1.69	0.77
- FDI	0	0	5.22	3.14
- Portfolio Investment	0	0	na	na
- Other long term Invest.	0	0	na	na
- Short term investment	0	0	-4.69	-7.40
- Other Investment	4.69	1.74	na	na
Overall BOP	2.47	-0.73	-3.53	9.70
International Res. , gross	13.56	16.41	24.37	55.48
Macroeconomic Performance:				
Real GDP growth	3.66	2.86	7.70	-6.70
Investment growth, real	na	na	10.24	-38.43
Consumption growth, real	na	na	4.86	-10.30
M2 , real growth, yoy	10.69	16.57	19.71	-6.48
Inflation, yoy	0.62	19.25	2.86	5.29
Income velocity changes	-6.35	-11.76	-10.03	-0.23
GDP deflator changes, yoy	4.39	6.39	2.47	8.49
Investment/GDP , nom	na	na	22.93	22.78
Dom. Savings/GDP, nom	na	na	37.33	38.78
Consumption/GDP, nom	na	na	56.14	51.86
Private S-I Gap/GDP	na	na	-11.95	9.14
Gov. S-I Gap/GDP	-3.95	-3.95	6.81	3.80
Gov. Savings/GDP	2.12	1.90	18.27	15.19
Overall gov. budget/GDP	-3.23	-3.18	2.41	-1.79

Sources: IFS, SFS, Individual country's annual report, various publications.

b. Managed Floating Exchange Rate Regime: After Crises, 1997-99 (May)

After crises, Singapore and Sri Lanka continued to pursue managed floating regime. Singapore authority continued to maintain strong currency in order to curb down domestic inflation, especially imported inflation. The exchange rate policy was guided toward appreciation until end of 1997. During 1997-78, its REER changes had exhibited a net appreciation at 2.4 percent on average. Since early 1998, however, Singapore's REER index had showed at declining trend, implying the improvement of its export competitiveness. Its REER changes had displayed a net depreciation –1.3 percent on average. In term of index level, nevertheless, Singapore' export competitiveness against its trading partners was still lower than that in Indonesia, Korea, Malaysia, Thailand, and Taiwan, although it had been higher than that in Philippines.

After the crises, Sri Lanka authority continued to maintain export competitiveness through consistent exchange rate depreciation against its trading partners. Its NEER changes had displayed a net depreciation at 2.4 percent on average, but, due to significantly higher domestic inflation relative to trading partner inflation, Sri Lanka's REER had appreciated at 3.7 percent on average. The long-term trend of Sri Lanka's REER had indicated the increasing trend, implying the worsening its export competitiveness.

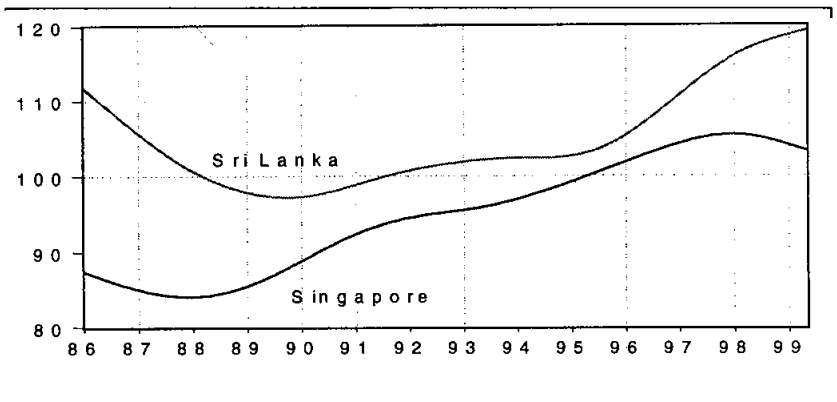
The financial crises had also deeply strike the Singapore's economy. Its ratio net service balance to GDP had considerably tumbled to 0.4 percent, as compared to 11.6 percent last year, mostly because of huge fall in travel service. But, due to substantial decline in import, Singapore's current account greatly improved, witnessed at 20.9 percent of GDP, given the remaining stable net income balance. In 1998, there were large private capital outflows in term of other investment, recorded at –16.9 percent of GDP, as compared to 2.7 percent in last year. Consequently, the overall balance of payment was negative at 0.3 percent of GDP. Singapore's balance of payment structure, in fact, was still in better structure on the light of the large fraction of long-term investment: FDI, accounted for 4.9 percent of GDP and enormous international reserves, recorded at 88.2 percent of GDP in 1998.

Table 3.8: The Average Changes of REER Index, Under Managed Floating Exchange Rate Regime: After Crises 1997- May 1999, 1995=100, (percent year on year)

Items	Singapore	Sri Lanka
a. Nominal Effective Exchange Rate		
- Mean	4.87	-2.43
- Mean of depreciation	-6.37	-6.04
- Mean of appreciation	7.81	2.67
- Standard deviation	7.90	5.78
b. Real Effective Exchange Rate		
- Mean	0.24	3.70
- Mean of depreciation	-8.80	-6.79
- Mean of appreciation	4.31	8.43
- Standard deviation	7.03	8.58
c. Average Inflation		
- Respective Country	0.67	8.73
- Trading Partner, trade weighted	4.28	2.78
Observations (month)	29	29

Sources: IFS, SFS, Individual country's annual report, various publications, positive is appreciation.

Graph 3.12: Long-Term Trend of REER Index Under Managed Floating Regime, 1986-99, 1995=100



The high level of domestic savings, both private and governments savings, shared with significant share of long-term foreign investment and huge international reserves, had enabled Singapore's authority to resist speculative attacks during the crises, in a way of maintaining less volatile exchange rate fluctuation. Standard deviation of Singapore's REER changes was at 7, much smaller than that in Indonesia, Korea, Philippines, Thailand, and Mongolia. As a result, the economy of Singapore still grew at 1.5 percent in 1998, as compared to almost 8 percent in last year and with deflation rate 1.6 percent. However, the relatively success of Singapore's authority in coping the financial crises was overshadowed high volatility of income velocity and high growth of real money balance, M2, accounted for 33 percent in 1998. This, however, was the logical consequence of having NEER target, instead of targeting monetary aggregate.

The financial crises had uncooperatively influenced the Sri Lanka economic performance, although it was not as severe as other country members. Sri Lanka's export and import had still had positively growth rate, even though sharply dropped from last year. Ratio its current account deficits to GDP in 1998 had slightly improved to –1.5 percent as compared to -2 percent last year. The composition of Sri Lanka's capital account was predominantly embraced by long-term capital inflows: official and FDI capital inflows. Nevertheless, the Asian crises had reduced those inflows and, thus, dwindled the economic growth to at 4.7 percent, as compared 6.3 percent last year. The decline of private investment, however, had been counteracted by higher rate of public investment: higher ratio of government saving-investment gap and higher ratio overall government budget deficit to GDP. During the crises, the crowding out of government investment had successfully offset the declining private investment. In fact, ratio of investment and of domestic savings to GDP surprisingly increased to 25.4 percent and 19 percent, respectively, as compared to 24.4 percent and 17.3 percent in last year. The expansive fiscal policy had been neutralized by tight monetary policy in a way of preserving domestic price stability. Tight monetary policy was indicated at low growth of real broad money balance, approximately 1 percent in 1998. As a result, the average domestic inflation was slightly lower than that of last year.

Table 3.9: Macroeconomic Performance Under Managed Floating Exchange Rate Regime: After Crises 1997-99, At 1995 constant prices for GDP figure

Indicators	Singapore		Sri Lanka	
As ratio to GDP otherwise stated, percent	1997	1998	1997	1998
Balance of Payment:				
Export growth, nominal	-0.21	-12.22	13.12	2.17
Import growth, nominal	0.68	-23.21	7.45	1.03
Trade Balance	1.17	17.39	-8.03	-7.45
Current Account	15.68	20.87	-2.02	-1.46
Capital & Financial Bal.	-4.20	-21.17	4.70	2.43
- Official Cap. Inflows	-0.18	-0.27	1.58	1.26
- FDI	5.20	4.87	2.85	1.23
- Portfolio Investment	-11.96	-8.87	0.09	-0.15
- Other long term Invest.	na	na	0.31	0.04
- Short term investment	na	na	-0.13	0.05
- Other Investment	2.74	-16.91	na	na
Overall BOP	11.48	-0.30	2.68	0.97
International Res. , gross	84.02	88.21	13.37	12.54
Macroeconomic Performance:				
Real GDP growth	7.99	1.49	6.30	4.74
Investment growth, real	14.05	-12.67	na	na
Consumption growth, real	6.51	2.68	na	na
M2 , real growth, yoy	18.15	33.23	4.41	0.82
Inflation, yoy	2.04	-1.55	10.74	3.72
Income velocity changes	-8.60	-23.83	1.81	3.89
GDP deflator changes, yoy	-6.68	-2.24	9.03	8.80
Investment/GDP , nom	38.37	33.53	24.39	25.37
Dom. Savings/GDP, nom	54.05	36.85	17.33	18.91
Consumption/GDP, nom	49.24	50.07	82.68	81.09
Private S-I Gap/GDP	5.03	10.79	-1.48	-0.53
Gov. S-I Gap/GDP	10.65	10.08	-5.58	-5.92
Gov. Savings/GDP	18.17	17.55	-2.21	-2.43

Sources: IFS, SFS, Individual country's annual report, various publications.

C. Independent Floating Exchange Rate Regime: After Crises, 1997-99 (May)

During this period, Indonesia, Philippines, Korea, Thailand, and Korea, had undergone substantial depreciation against their trading partners, in both nominal and real terms, accompanied by high exchange rate volatility. Indonesia had experienced the major depreciation against its trading partners while Taiwan had the slightest depreciation, both in nominal and real terms. Indonesia's NEER changes had revealed large net depreciation against its trading partners, averaging at -31 percent. About 72 percent of total observation had displayed NEER depreciation against its trading partners with the mean of –45 percent. In real term, however, due to tremendously high domestic inflation relative to its trading partner, Indonesia's REER had only verified a net depreciation at -13.4 percent on average.

Table 3.10: The Average Changes of REER Index Under Independent Floating Exchange Rate Regime: After Crises 1997- May 99 (Percent year on year, 1995=100)

Items	Philippines	Mongolia	Thailand	Indonesia	Taiwan	Korea
a. NEER						
- Mean	-10.71	11.38	-7.20	-30.90	-0.42	-8.31
- Mean of depreciation	-16.22	-22.39	-24.07	-44.68	-319	-15.77
- Mean of appreciation	3.77	42.90	8.55	5.29	2.54	19.70
- Standard deviation	12.20	42.00	19.28	33.38	3.23	18.26
b. REER						
- Mean	-5.45	25.21	-4.77	-13.41	-2.92	-7.74
- Mean of depreciation	-14.29	-4.42	-20.34	-41.91	-5.11	-14.20
- Mean of appreciation	7.07	32.94	9.76	21.66	1.95	16.90
- Standard deviation	12.06	32.93	18.16	39.23	3.79	16.60
Average Inflation						
- Respective Country	8.01	20.50	5.95	34.80	1.16	5.07
- Trading Partner, trade weighted	1.91	2.34	2.37	1.77	3.91	2.98
Observations (months)	29	29	29	29	29	29

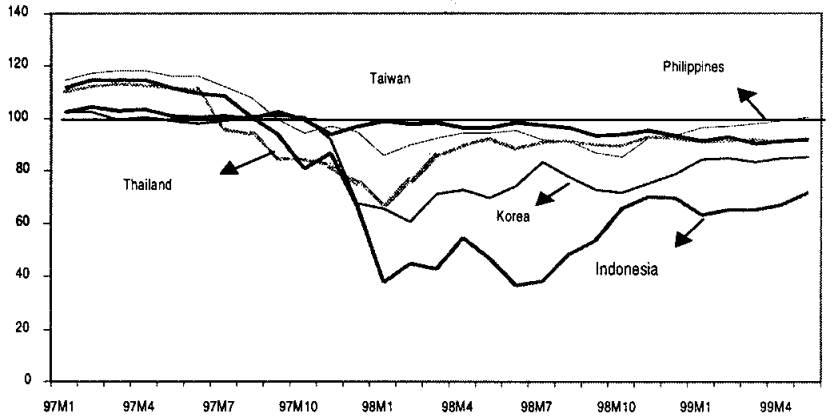
Sources: IFS, SFS, Individual country's annual report, various publications, positive is appreciation.

The occurrence of depreciation and appreciation of Taiwan's NEER under the observation of the period concerned was almost balanced, although still showed a net small depreciation at –0.4 percent on average. Its exchange rate volatility measured by standard deviation was the smallest amongst country under this exchange rate regime. Due to significantly lower domestic inflation rate relative to its trading partner, Taiwan's REER had displayed a larger net depreciation, at almost 3 percent on average. Average Taiwan's inflation was only 1.2 percent, whereas trade weighted inflation of its trading partner was 3.9 percent. Philippines, the most experienced independent floating regime, had also undergone sizeable NEER depreciation against its trading partners, second largest after Indonesia. Substantially higher domestic inflation had reduced Philippines export competitiveness against its trading partners. Average domestic inflation was 8 percent while trade-weighted trading partner's inflation was just 1.9 percent.

Korea and Thailand's NEER had also experienced noteworthy depreciation, but higher domestic inflation relative to their trading partners' inflation had abbreviated their competitiveness. Mongolia, on the other hand, had gone through substantial appreciation in term of NEER and REER changes, due to outsized depreciation of Russia's currency, the largest trading partner, which accounted for 36.6 percent of Mongolia total international trade. As in Taiwan, the occurrence of depreciation and appreciation of Mongolia's was almost in balanced, in term of NEER. But, the mean of appreciation was almost twice than that of depreciation, resulting a net appreciation at 11.4 percent. The volatility of Mongolia NEER is the highest, even higher than that in Indonesia on average, among country under this regime, mainly due to high Russia's exchange rate volatility. Moreover, higher domestic inflation had encouraged more appreciation in real term, against its trading partners. Average Mongolia's inflation during this period was 20.5 percent, while trade-weighted trading partner's inflation was only 2.3 percent.

In term of nominal term, Mongolia had presented the highest exchange rate volatility under this exchange rate regime. However, in real term, Indonesia displayed the highest exchange rate volatility because of the higher Indonesia's average inflation, than that in Mongolia. Due to the massive depreciation of Indonesia currency against its trading partners, Indonesia's export competitiveness had performed the most competitive amongst SEACEN member, followed by Korea, Thailand. Since 1999, Thailand had been able to achieve the same competitive-

Graph 3.13: The Development of REER Index (1995=100) Under Independent Floating Regime, After Crises, 1997-99



ness level with Taiwan owing to significant decline in Thailand inflation. Philippines, however, had the least export competitiveness as compared to others, on account of the significant decline of the Philippines' trading partner's inflation.

After crises, most countries' current account under this exchange rate regime, had improved substantially from deficit to surplus, because of sharp drop in import growth, not the improvement of export performance. In fact, export performance had worsened and exposed negative growth for most member, except in Philippines at which still had 10.7 percent growth of export in 1998. Taiwan's current account surplus as ratio to GDP had declined from 2.74 percent to 1.43 percent due to noteworthy drop both in export and import. This worsening current account surplus had been adjusted by private capital inflows and even Taiwan had experienced overall balance of payment surplus, at 2 percent of GDP. Taiwan had spent billions US dollar to defend the NT dollar from speculative attacks. Taiwan's international reserves ratio to GDP had dropped to 31.1 percent in 1997, as compared to 34.4 percent in previous year. Ample international reserves, which accounted for 36.4 percent of GDP in 1998, had much backed the authority in stabilizing the NT dollar. The standard deviation of its NEER and REER were the smallest amongst SEACEN members.

Beside the least exchange rate volatility, Taiwan also demonstrated the smallest average inflation. The relatively stable the NT dollar exchange rate and stable velocity of money had permitted authority to stabilize domestic prices, which was required to maintain sustainable

economic growth. The stable domestic prices and sustainable balance of payment position, combined with important government investment and strong domestic consumption, had been able to produce higher economic growth in 1998, even though lower than previous year. Economic growth in 1998 was 4.8 percent, the highest amongst the country member in this exchange rate regime. Ratio investment of GDP was at 22.4 percent of GDP, only slightly lower as compared to pre-crises.

After crises, Philippines' currency had also experienced high volatility against trading partners, although it was not as high as in Korea, Thailand, and Indonesia. The longest experience country in independent floating exchange rate regime had encouraged Philippines' foreign exchange market players to be familiar with external shocks and high exchange rate volatility environment. Even though with relatively low level of international reserves, the authority had spent billions of US dollars to defend the peso I a way of maintaining the stability of peso against speculative attacks. Philippines' international reserve ratio to GDP had substantially reduced at 10.7 percent in 1997, as compared to 14.2 in last year. Although, Philippines's export during this period was less competitive than Korea, Thailand, and Indonesia, its export grew by 10.7 percent in 1998 owing to better shape of Philippines' balance of payment. Long-term foreign investment including FDI in 1998 was significantly high, accounted for 6.8 percent of GDP. This better shape of balance of payment structure, high marginal propensity to consume, and strong fiscal policy (measured by ratio deficit overall government budget to GDP at -1.87 percent), had sustained Philippines' economy from further deep economic recession. As a result, the contraction of Philippines' economic growth in 1998 was only –0.58 percent. However, Philippines inflation rate was quite high during this period, even though the authority had tried to curb it down by conducting tight monetary policy. The growth rate of real M2 in 1998 was 2.5 percent, much lower than 14 percent in last year.

Table 3.11: Balance of Payment Position Under Independent Floating Regime: After Crises 1997-99 , As ratio to GDP otherwise stated, percent At 1995 constant prices for GDP figure

Indicators	Philippines	Thailand	Indonesia	Taiwan	Korea
1997					
Export growth, nominal	23.78	5.91	7.29	5.42	6.66
Import growth, nominal	13.33	-8.5	-2.88	9.58	-2.16
Trade Balance	-16.33	-2.43	5.46	5.1	-0.67
Current Account	-5.3	-1.96	-2.27	2.74	-1.71
Capital & Financial Bal.	6.58	-6.17	1.18	-2.99	0.28
- Official Cap. Inflows	na	0.08	1.34	na	na
- FDI	1.35	2.18	2.17	-1.06	-0.34
- Portfolio Investment	-1.25	2.88	-2.23	-2.92	3
- Long term Investment	5.87	0.21	na	na	na
- Short term investment	0.65	-6.27	na	na	na
- Other Investment	na	na	na	1.2	-2.26
- Inflows Bank	na	-5.24	na	na	na
Overall BOP	1.28	-8.14	-1.09	-0.24	-1.43
International Reserves	10.67	18.35	8.11	31.1	4.28
1998					
Export.growth, nominal	10.72	-8.5	-8.6	-9.49	-4.91
Import growth, nominal	-18.38	-33.89	-34.43	-7.11	-36.08
Trade Balance	-5.52	10.44	21.77	4.03	12.83
Current Account	1.97	12.28	4.02	1.43	12.64
Capital & Financial Bal.	2.94	-8.54	-4.65	0.62	-1.24
- Official Cap. Inflows	na	5.02	10.09	na	na
- FDI	2.44	4.02	-0.36	-1.38	0.12
- Portfolio Investment	-1.54	0.51	-14.37	-1.1	-0.62
- Long term Investment	4.37	-0.45	na	na	na
- Short term investment	-2.33	-5.99	na	na	na
- Other Investment	na	na	na	3.32	-0.82
- Inflows Bank	na	-11.65	na	na	na
Overall BOP	4.92	3.73	-0.62	2.04	11.4
International Reserves	16.57	25.36	23.8	36.4	16.22

Sources: IFS, SFS, Individual central bank's annual report, various publications.

Before crises, the structure of Thailand's balance of payment was relatively weak on the light of large trade deficit of which had been mainly financed by short-term capital inflows. Although, its net service balance was positive, it was relatively small. The crises had profoundly hurt Thailand economy. In 1997-98, there were large private short-term capital outflows, accounted for 14 percent of GDP on average. Even, in 1997, its overall balance of payment was negative at 8.1 percent of GDP, which had caused high volatility in exchange rate fluctuation. In 1998, the balance of payment position was relatively better than previous year as the outcome of official capital inflows (IMF loan package), reached at 5 percent of GDP, and more long-term private capital inflows in term of FDI, accounted for 4 percent of GDP. Until the end 1998, Thailand had disbursed the IMF loan package at the amount of US10.8 billions dollar or 9.2 percent of 1998's GDP. This had generated surplus Thailand's overall balance of payment in 1998. As the result of better balance of payment structure, considerable government investment, and large fiscal stimulus (ratio overall government budget to GDP was –2.67 percent), Thailand's economy had been precluded from further deep contraction. The real economic growth in 1998 was negative 8 percent. To curb down domestic inflation as result of exchange rate volatility, the authority had conducted tight monetary policy, which resulted in real money balance growth only 1 percent in 1998. The prospect for economic recovery is quite promising on the light of significant and IMF and FDI inflows, large fiscal stimulus for both investment and consumption, and high domestic saving rate, witnessing at almost 35 percent of GDP in 1998.

Indonesia, the most affected country from the crises, had struggled in coping with the economic and political crises, happening at the same time. Amongst the country members under this regime, it had experienced the largest exchange depreciation and the highest domestic inflation. The Indonesian authority had tried very hard to defend the rupiah and had spent billions of US dollars to ease speculative attacks. Although, in term of bilateral real exchange rate index, Indonesia's export is the most competitive than any others, its export performance had substantial negative growth in 1998. As mentioned earlier, substantial improvement of current account surplus was the outcome of huge drop in import growth. Like in Thailand, Indonesia had experienced huge

capital outflows. Private capital outflows recorded at 14 percent of GDP in 1998. But, even worse, the FDI inflows dropped in 1998 to negative 0.4 of GDP. The only way to balance the overall balance of payment, then, was to ask for IMF loan, bearing with all consequences: advantageous and disadvantageous. Thailand had a better balance of payment position in term of FDI inflows, as compared to Indonesia, although those countries had similar ratio international reserves to GDP in 1998, at 23-25 percent. To curb down the inflationary pressures from exchange rate volatility and exchange rate expectations, Indonesian authority had conducted incredibly tight monetary policy. The real money balance, M2, had contracted 11.4 percent in 1998. But, because of monetary policy lag, the outcome of tight monetary policy will be effective in 1999. As a result of both economic and non-economic factors (social and political turbulence), GDP was so severely contracted at -13.7 percent in 1998, due to huge drop in private investment and small scale of fiscal stimulus.

As Thailand and Indonesia, substantial improvement of Korea's current account, at 12.8 percent of GDP in 1998, was due to large drop in import growth rate. In term of average changes of bilateral real exchange rate index, Korea's export is the most competitive amongst countries under this exchange rate regime. This possibly related to the smallest export contraction during 1998 as compared to other countries, except for Philippines, country which had experienced independent floating regime since 1985. Before crises, portfolio and other investment had covered Korea's current account deficit. The financial crises had caused significant adjustment in Korea's capital and financial account. There were net outflows in other investment at –1.4 percent of GDP in 1997 and ratio portfolio investment to GDP had reduced drastically from surplus 3.1 percent in 1997 to net outflows at –0.6 percent in 1998. Finally, the Korean authority had to invite the IMF supporting package loans. In 1998, Korea had drawn down US28.7 billions from USD 35 billions dollar total support packages from IMF, World Bank and ADB. This amount was equivalent to nearly 9 percent of GDP and had accumulated significant international reserves, reached at 16.2 percent of GDP at the end 1998. Korea's overall balance of payment surplus was also very high at 11.4 percent of GDP.

Table 3.12: Macroeconomic Performance Under Independent Floating Regime: After Crises 1997-99, As ratio to GDP otherwise stated, percent At 1995 constant prices for GDP figure

Indicators	Philippines	Thailand	Indonesia	Taiwan	Korea
1997					
Real GDP growth	5.4	-0.43	4.7	6.77	5.01
Investment growth, real	11.73	-19	11.04	13.86	-7.49
Consumption growth, real	4.96	0.08	4.88	7.32	3.19
M2 , real growth, yoy	13.91	10.45	9.85	6.07	10.66
Inflation, yoy	7.25	7.62	10.31	0.85	6.57
Income velocity changes	-7.47	-9.85	-4.69	0.66	-5.11
GDP deflator changes, yoy	5.77	5.43	12.16	1.84	5.32
Investment/GDP , nom	24.86	34.99	31.26	22.03	34.23
Dom. Savings/GDP, nom	19.56	32.08	28.99	24.71	33.31
Consumption/GDP, nom	85.98	64.4	69.01	75.22	66.6
Private S-I Gap/GDP	-8.19	-2.05	-3.71	8.52	-5.76
Gov. S-I Gap/GDP	2.9	-0.86	1.43	-5.84	4.85
Gov. Savings/GDP	4.51	10.68	8.25	2.78	10.56
Overall gov. budget/GDP	0.06	-0.33	1.29	na	-1.54
1998					
Real GDP growth	-0.58	-8	-13.68	4.83	-5.84
Investment growth, real	-16.44	-40.55	-45.69	5.97	-38.59
Consumption growth, real	2.92	-12.9	-4.11	6.3	-8.19
M2 , real growth, yoy	2.51	0.98	-11.42	5.79	20.61
Inflation, yoy	10.33	4.32	77.63	2.88	4
Income velocity changes	1.98	-8.89	-2.55	-0.91	-21.93
GDP deflator changes, yoy	10.79	8.48	83.28	2.62	5.32
Investment/GDP, nom	20.29	22.6	18.53	22.37	20.86
Dom. Savings/GDP, nom	22.27	34.9	22.55	24.28	33.04
Consumption/GDP, nom	87.55	na	73.79	75.63	66.58
Private S-I Gap/GDP	2.04	12.7	3.2	6.05	10.34
Gov. S-I Gap/GDP	-0.07	-0.4	0.82	-4.14	1.84
Gov. Savings/GDP	4.74	9.7	5.66	4.18	8.05
Overall gov. budget/GDP	-1.87	-2.67	0.73	na	-4.17

Sources: IFS, SFS, Individual central bank's annual report, various publications.

Strong international support to Korean economy and expansive fiscal and monetary policies had hindered from further economic contraction, although had some pressures on domestic inflation. The economic contraction was –5.8 percent in 1998, due to large drop in investment to almost 21 percent of GDP as compared to 33 percent in last year. The overall government budget deficit at 4.2 percent of GDP, much higher than –1.5 percent in last year, had provided economic stimulus. In addition, expansive monetary policy in 1998, represented in high growth rate of real broad money at 20.6 percent, had further facilitated stimulus for economic activities. Consequently, average domestic inflation increased at 7.5 percent, higher than 4.5 percent in the last year.

Chapter Four

CONCLUSIONS AND RECOMMENDATIONS

I. Conclusions

There is no exact theoretical framework adequately illuminating the behavior of choice of exchange rate regime in most country in the world. The economy openness argument can partly explain the behavior of exchange rate choice for number of country but without firm causal relationship. More closed economy (meaning lower trade dependency ratio) tends to pursue more flexible exchange rate regime because the domestic economy is less vulnerable to the external shocks, but, this does not mean that more open economy would choose more fixed exchange rate regime. The world economy is more open economy necessitating that one country increasingly interacts with one another through international trade so that the option of exchange rate regime for them do not solely rely on the economy openness. In addition, the economy size consideration can only in part illumine the choice of exchange rate regime for number of countries but, again, the causal relationship is not clear. Sizable economy (in term of nominal GDP) would be beneficial to opt more flexible exchange rate regime, as they are more self-sufficient, more diversified, and less open. However, this does not imply that less sizable countries would opt fixed exchange rate regime. Moreover, the international reserve argument also cannot obviously enlighten the behavior of exchange rate regime choice for most countries. Most countries in the world possess relatively low international reserves, less than US10 billions dollar. There is no strong evidence that countries holding lower international reserves tend to pursue more flexible exchange rate regime, as they relatively own low capacity to defend their currencies. In contrast, strong evidence exhibits that countries enjoying highly international reserves like to pursue more flexible exchange rate regime.

Most SEACEN countries are generally open economies, of which Singapore, Malaysia, and Taiwan are the most three open economies. The economy openness consideration cannot decisively illuminate the behavior of exchange rate choice for SEACEN countries: before and after the crises. Only for Thailand before the crises, and for Malaysia after the crises, the choice of exchange rate regime is in line with the economy openness consideration. The level of international reserves,

both relative and absolute terms, could not also steadfastly enlighten the choice of exchange rate regime in SEACEN countries. The highly reserves countries, such as Singapore and Taiwan, do not execute fixed exchange rate regime even though they have relatively strong capacity to defend their own currency, instead, they implement more flexible exchange rate regime: before and after crises. For Malaysia case, however, the choice of fixed exchange rate regime after the crises corresponds with the international reserve consideration. The economy size consideration can noticeably light up the behavior of exchange rate regime in SEACEN countries, before and after the crises. Most SEACEN countries perform sizable economy of which Korea, Taiwan, and Indonesia are the most sizable economies. Therefore, economy size, rather than economy openness and international reserves, could enlighten the behavior exchange rate choice in most SEACEN countries.

The movement toward more flexible exchange rate regime in SEACEN countries is in harmony with the rest of the world, following the breakdown of the Bretton Wood system in 1973, at when many major industrial countries started to adopt more flexible exchange rate regime as a solution of international liquidity crises. Before crises, there is tendency for SEACEN countries to shift from relatively fixed toward managed floating exchange rate regime. The movement toward a greater flexible exchange rate regime in SEACEN countries was aimed at reducing exchange rate misalignment and earning exchange rate flexibility in a way of absorbing the external and internal shocks in the economy. Thus, the nature of shocks had served critical reason for the shift toward more flexible exchange rate regime. This movement had called for that the nature of shocks is commonly real one originating from external disturbances like tightening or loosening monetary and fiscal policy in the main trading partner countries, so that flexible exchange rate can function as an adjuster mechanism of stabilizing output. High inflation, low international reserve, heavy maturing foreign debt, and high government budget deficit had overshadowed the exchange rate regime movement. The movement toward more flexible exchange rate regime had been ushered by gradual removal of exchange and trade controls.

Furthermore, the movement toward more flexible exchange rate regime is also endeavored to offer greater flexibility in domestic monetary management. Under flexible exchange rate regime, monetary policy is theoretically more effective in influencing output as compared to

fixed exchange rate regime. The more sensitive the domestic interest rate to capital flows and the more mobile the capital is, the more effective the monetary policy. It is getting more difficult to maintain fixed exchange rate regime under increasingly open economy and perfect capital mobility, while at the same time have to preserve the export competitiveness against main trading partners. The macroeconomic policy objective consideration, hence, had facilitated another some additional basic reason for the movement toward more flexible exchange rate regime in SEACEN countries. Before crises, only Philippines and Mongolia had moved toward independent floating exchange rate regime. The movement had been overshadowed by deep economic and financial crises in 1983 in the case of Philippines and hyperinflation in the case of Mongolia.

Before crises, especially since 1990-early 1994, most SEACEN countries under basket peg and managed floating exchange rate regimes had successfully managed exchange rate stability and, thus, domestic price stability, while at the same time upholding export competitiveness. The way to control domestic price stability depends on the monetary policy framework pursued by individual country. As the most open economy in this region, Singapore is special case as it relies much on price stability of traded goods. That is why in its monetary policy framework, Singapore utilizes NEER as immediate target to achieve price stability and requires strong domestic currency to contain domestic inflation. The only way to maintain export competitiveness, then, is to lower domestic inflation relative to trading partner's inflation. During 1990-95, Singapore's REER had performed the most competitive one amongst SEACEN members although with increasing trend.

Other SEACEN countries, in principle, employs monetary aggregate as operational target of monetary policy in attaining price stability. Under this monetary policy framework, exchange rate policy is facilitated to prop up the achievement of domestic price stability through maintaining a narrow exchange rate band, and at the same time preserving export competitiveness and business confidence. Base on monthly observations, Taiwan and Malaysia had maintained the balance between the occurrence of exchange rate depreciation and appreciation against their main trading partners on monthly basis in a way of minimizing the direct impact on domestic inflation, and, thus, preserving export competitiveness. Sizable relative international reserves and highly open economy, in some way, had enabled them to apply such

exchange rate policy strategy. Korea, Indonesia, and Sri Lanka had carried out more frequent nominal exchange rate depreciation against their main trading partners in a way of improving export competitiveness, but escorted by higher domestic inflation and wider exchange rate band. Under basket peg exchange rate regime, Thailand and Nepal had also executed more frequent nominal exchange rate depreciation against their main trading partners in a way of improving export competitiveness. However, such exchange rate policy strategy had induced higher domestic inflation, and thus, further worsening export competitiveness in the longer term.

Since mid 1994, however, there was tendency for most SEACEN countries, in basket peg and managed floating exchange rate regime in particular, to experience upward trend REER or appreciation. Under large capital inflows, defending fixed exchange rate or maintaining a narrow exchange rate band was not obviously sustainable. The substantial capital inflows under more perfect capital mobility and increasingly open economy had weakened the effectiveness of monetary policy in sterilizing the surplus balance of payment in a way of stabilizing exchange rate. As a result, their REER tended to significantly appreciate and, in turn, worsened the export competitiveness and stimulated speculative attacks. Under independent floating exchange rate regime, there is no official obligation to defend exchange rate so that the sterilization policy is not always necessary. Large capital inflows would lead exchange rate appreciation in way of clearing surplus balance of payment.

After crises, major SEACEN countries had pursued independent floating exchange rate regime since Thailand, Indonesia, Korea, and Taiwan had shifted to independent floating exchange rate regime in response against huge speculative attacks and loss of investor's confidence. Lack of transparency and accountability in both corporate sector and financial institutions had worsened confidence level for both domestic and foreign investors, so that tight monetary policy and intervention policy were powerless in defending the stability of domestic currency. The movement toward independent floating exchange rate regime seemed to be the only choice left, after realizing and considering that maintaining a narrow exchange rate band under widening current account deficits was not defendable, high import-content of their export, and large share of non-traded sector in the economy. Moreover, sizable unhedged foreign loans and unstable political situa-

tion had furthered deteriorated the financial crises. As consequence of more opened economy, SEACEN economies are increasingly dependent on the international financial interaction. Allowing the market determines the exchange rate the adjustment burdens would be shared together amongst money market, stock market, goods market, and labor market.

Since the crises, countries under independent floating exchange rate regime had experienced massive exchange rate adjustment. Their REER trend had sharply adjusted downward toward the lowest point in January 1998 before starting to climb up. In term of REER index, Indonesia, Korea, and Thailand were the most competitive amongst this exchange rate regime countries. Malaysia, which had moved to single peg exchange rate regime since September 1998, had gained some short-term relative export competitiveness in term of both relative changes and REER index, escorted by low exchange rate volatility and increasing business confidence. Since that period until June 1999, Malaysia's REER index was the most competitive after Indonesia and Korea, and this had facilitated good opportunities to accelerate economic recovery. On the other hand, other competitors: Indonesia, Korea, and Thailand had endured great exchange rate adjustment from large depreciation to large appreciation, accompanied by high exchange rate volatility and lower business confidence. In the longer term, fixed exchange rate tends to be less competitive as compared to more flexible exchange rate regime, unless the domestic inflation could be maintained lower than that in the main trading partners.

After crises, Singapore and Sri Lanka continued to implement managed floating exchange rate regime with the same exchange rate policy strategy as be done in the pre-crises. To respond with the excessive depreciation suffered by independent floating exchange rate regime countries, Singapore had tried to improve its export competitiveness through the same strategy as be done before crises. Since early 1998, its REER index had exposed a declining trend implying the improvement of its export competitiveness, although still less competitive as compared to Indonesia, Korea, Malaysia, Thailand, and Taiwan. Sri Lanka, Nepal, and Mongolia continued to apply the same exchange rate policy strategy, before and after crises, in a way of improving their export competitiveness through frequent nominal exchange rate depreciation against its main trading partners. However, due to persistently higher domestic inflation relative to the main trading partners, their

REER index were still much less competitive as compared to the rest SEACEN countries.

Another important determinant of the option of exchange rate regime is the structure of balance of payment, especially the composition of capital account. More long-term capital inflows in terms of official inflows, FDI and other private long-term inflows, which were required to finance the prevailing current account deficits, would enable authority to reduce short-term exchange rate volatility, thus, to preserve the existing exchange rate regime. The significant share of short-term capital inflows had produced more difficulty for countries like Thailand, Indonesia, and Korea in upholding the pre-crises exchange rate regime against large external shocks. The more expansive fiscal policy somehow had helped Korea and Thailand government in coping with the crises as compared to Indonesia whose fiscal policy was less expansive and more political and social uncertainties.

Although, Philippines was less competitive as compared to most independent floating exchange rate regime countries, the better shape of its balance of payment structure (higher portion of long term capital inflows), higher marginal propensity to consume, and strong fiscal policy had been relatively able to sustain from further economic down turn, as result of the crises. As the longest country experiencing independent floating exchange rate regime, investors and market players in Philippines have been used to with higher exchange rate volatility and external shocks. Nevertheless, the relatively less export competitiveness may weaken the balance of payment in the longer term. Nepal, Sri Lanka, and Mongolia also have better shape of balance of payment structure even though they revealed as the least competitive countries amongst SEACEN members. More long-term capital inflows necessitated to fund their current account deficits had reduced risks of sudden capital outflows, then, allowed the authority to preserve the current exchange rate regime till now. Malaysia also had been benefited from relatively better shape of its balance of payment structure. More long-term capital inflows (FDI and official inflows) escorted by large scale of fiscal stimulus, and high domestic savings rate had enabled Malaysia to accelerate its economic recovery. The movement toward single peg exchange rate regime is to create business confidence, especially for long-term investment.

Singapore and Taiwan are special case in term of balance of payment structure. The two countries had experienced significant current account surplus and portrayed strong balance of payment structure. The strong balance of payment structure had made easier for authority to select and preserve the existing exchange rate regime. Singapore, as a financial center in this region and as the most open economy, had continued to uphold managed floating exchange rate regime after crises. Significant share of long-term investment shared with the high domestic saving rate, both private and government savings rates, and huge international reserves, had enabled the Singapore government to prevent economic contraction during the crises. Taiwan, however, reacted differently in response to crises as compared to Singapore. As the second largest economy amongst SEACEN members and less open economy relative to Singapore, Taiwan had moved toward independent floating exchange rate regime after crises. The ample international reserves and strong balance of payment structure had enabled Taiwan authority to stabilize exchange rate, domestic price level, and, thus, business confidence. Subsequently, accompanied by strong government investment and strong domestic consumption, Taiwan had been able to maintain relatively higher economic growth after the crises.

II. Recommendations

As concluded, the economy size, macroeconomic policy objectives, and the structure of balance of payment have been able to sufficiently enlighten the behavior of exchange rate regime movement in most SEACEN countries: before and after crises. Under increasingly open economy and more perfect capital mobility, the movement toward independent floating exchange rate regime, taken by most SEACEN countries after the crises, seems to the proper action even though likely to be supplement with higher exchange rate volatility. Under this exchange rate regime, there is no official obligation to defend such exchange rate, as sterilization policy is not always necessary to clear surplus balance of payment allowing greater flexibility for monetary policy to achieve domestic price stability. The best way to achieve exchange rate stability, domestic price stability, and business confidence, is, then, through increasing the authorities' credibility, accountability, transparency, and good governance in managing the national economy. Lowering domestic inflation relative to trading partners' would be the best way to preserve long-term export competitiveness. Restructuring the balance of payment toward more long term-capital inflows

shall be the additional way in minimizing the short-term exchange rate volatility.

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Appendix 1: Exchange Rate Arrangements of 184 Countries in 1998

				More Flexible	
			Limited	Managed	Independent
1	Angola	Bangladesh	Austria	Algeria	Afghanistan. Islamic Rep.
2	Antigua and Barbuda	Botswana	Belgium	Belarus	Albania
3	Argentina	Burundi	Denmark	Bolivia	Armenia
4	Aruba	Cyprus	Finland	Cambodia	Australia
5	Bahamas, The	Fiji	French	Chile	Azerbajian
6	Barbados	Iceland	Germany	China	Brazil
7	Belize	Jordan	Greece	Hog Kong,SAR	Canada
8	Benin	Kuwait	Ireland	Colombia	Congo, Dem. Rep.
9	Bhutan	Latvia	Italy	Costa Rica	Eritrea
10	Bosnia and Herzegovina	Lybyan Arab Jamahiriya	Luxemburg	Croatia	Gambia, The
11	Brunei Darussalam	Malta	Netherland	Czech Republic	Ghana
12	Bulgaria	Morocco	Portugal	Dominican Republic	Guatemala
13	Burkina	Myanmar	Spain	Equador	Guinea
14	Cameroon	Nepal	Bahrain	Egypt	Guyana
15	Cape Verde	Samoa	Qatar	El Salvador	Haiti
16	Central African Rep.	Seychelles	United Arab Emirates	Ethiopia	India
17	Chad	Tonga	Saudi Arabia	Georgia	Indonesia
18	Comoros	Vanuatu		Hondural	Jamaica
19	Congo Rep.of			Hungary	Japan
20	Cote d'Ivoire			Iran, Islamic Rep.	Korea
21	Djibouti			Israel	Libanon
22	Dominica			Kazakhtan	Liberia
23	Equatorial Guinea			Kenya	Madagascar
24	Estonia			Kyrgyz Rep.	Mexico
25	Gabon			Lao People's Dem. Rep	Micronesia, Fed. States of
26	Grenada			Macedonia, fmr. Yug. Rep	Moldova
27	Guinea-Bissau			Malawi	Mongolia
28	Iraq			Maldives	Mozambique
29	Kirbati			Mauritania	New Zealand
30	Lesotho			Mauritius	Papua New Guinea
31	Lithuania			Nicaragua	Paraguay
32	Malaysia			Nigeria	Peru
33	Mali			Norway	Philippines
34	Marshall Islands			Pakistan	Romania
35	Namibia			Poland	Rwanda

continued below

Appendix 1: Exchange Rate Arrangements of 184 Countries in 1998 (continued)

No.	Pegged to		Flexibility	More Flexible	
	Single	Basket	Limited	Managed	Independent
36	Netherlands Antilles			Russian Federation	Sao Tome and Principe
37	Niger			Singapore	Sierra Leone
38	Oman			Slovenia	Slovak Republic
39	Panama			Solomon Islands	Somalia
40	St.Kitts and Nevis			Sri Lanka	South Africa
41	St. Lucia			Sudan	Sweden
42	St.Vincent & the Greadines			Suriname	Switzerland
43	San Marino			Tajikistan	Tanzania
44	Senegal			Tunisia	Thailand
45	Swaziland			Turkey	Trinidad and Tobago
46	Syrian Arab Rep.			Turkmenistan	Uganda
47	Togo			Ukraine	United Kingdom
48				Uruguay	United States
49				Uzbekistan	Yemen, Repiblic of
50				Venezuela	Zambia
51				Vietnam	Zimbabwe
Total	47	18	17	51	51

Sources: Exchange Rate Arrangements and Exchange Restrictions, IMF, 1998

Appendix 2: Exchange Rate Arrangements Based on Economy Openness Under Fixed Exchange Rate Regime (percent)

No.	Pegged to				Flexibility Limited	
	Single		Basket			
	Country	TDR	Country	TDR	Country	TDR
1	Antigua and Barbuda	63.3	Bangladesh	31.8	Austria	54.9
2	Argentina	17.3	Botswana	105.5	Belgium	134.7
3	Bahamas, The	56.6	Cyprus	60.6	Denmark	54.3
4	Barbados	58.0	Fiji	81.1	Finland	57.7
5	Belize	72.0	Iceland	52.0	French	40.1
6	Benin	49.4	Jordan	84.3	Germany	45.4
7	Bhutan	69.9	Kuwait	74.7	Greece	31.2
8	Brunei Darussalam	87.9	Latvia	79.3	Ireland	126.1
9	Bulgaria	92.5	Lybyan Arab Jamahiriya	50.6	Italy	39.0
10	Burkina	42.6	Malta	126.3	Netherland	103
11	Cameroon	39.5	Morocco	49.4	Portugal	53.2
12	Central African Rep.	31.3	Myanmar	1.8	Spain	42.7
13	Chad	46.7	Nepal	41.6	Bahrain	134.3
14	Congo Rep.of	120.0	Seychelles	56.3	United Arab Emirates	119.1
15	Cote d'Ivoire	67.9	Tonga	51.0	Saudi Arabia	62.2
16	Dominica	76.6	Vanuatu	51.8		
17	Equatorial Guinea	170.5				
18	Estonia	151.7				
19	Gabon	70.4				
20	Grenada	58.8				
21	Guinea-Bissau	33.2				
22	Lithuania	99.2				
23	Malaysia	160.6				
24	Mali	54.4				
25	Namibia	81.4				
26	Niger	43.9				
27	Oman	78.3				
28	Panama	41.8				
29	St.Kitts and Nevis	83.9				
30	St. Lucia	98.9				
31	St.Vincent & the Greadines	64.8				
32	Senegal	49.6				
33	Swaziland	168.4				
34	Syrian Arab Rep.	15.5				
35	Togo	43.6				
Total	35		16		15	

Sources: Exchange Rate Arrangements and Exchange Restrictions, IMF, 1998. TDR is trade dependency ratio (trade/GDP).

Appendix 3: Exchange Rate Arrangement Based on Economy Openness Under Flexible Exchange Rate Regimes (percent)

No.	Managed Floating Regime				Independent Floating Regime			
	Country	TDR	Country	TDR	Country	TDR	Country	TDR
1	Algeria	49.8	Russian Federation	35.0	Armenia	69.2	Sweden	65.1
2	Belarus	115.1	Singapore	267.3	Australia	32.7	Switzerland	56.2
3	Bolivia	36.9	Slovenia	97.4	Brazil	14.7	Tanzania	26.8
4	Chile	47.5	Sri Lanka	69.4	Canada	66.4	Thailand	77.3
5	China	35.4	Sudan	20.9	Congo, Dem. Rep.	14.6	Trinidad and Tobago	94.3
6	Hog Kong,SAR	228.5	Suriname	42.6	Gambia, The	80.0	Uganda	28.2
7	Colombia	28.1	Tunisia	71.3	Ghana	53.3	United Kingdom	46.1
8	Costa Rica	75.5	Turkey	39.6	Guatemala	34.8	United States	19.6
9	Czech Republic	90.3	Ukraine	74.2	Guyana	194.4	Zambia	43.6
10	Dominican Republic	7.1	Uruguay	32.3	Haiti	24.7	Zimbabwe	67.4
11	Equador	51.4	Venezuela	46.7	India	17.2		
12	Egypt	24.6			Indonesia	44.3		
13	El Salvador	38.7			Jamaica	72.6		
14	Ethiopia	28.5			Japan	18.1		
15	Hondural	74.3			Korea	63.6		
16	Hungary	63.7			Madagascar	18.3		
17	Iran, Islamic Rep.	28.8			Mexico	36.4		
18	Israel	54.1			Moldova	113.3		
19	Kenya	52.0			Mongolia	80.6		
20	Kyrgyz Rep.	76.6			Mozambique	63.5		
21	Lao People's Dem. Rep	54.1			New Zealand	43.9		
22	Macedonia, fmr. Yug. Rep	81.7			Papua New Guinea	75.3		
23	Malawi	48.5			Paraguay	45.2		
24	Mauritania	88.6			Peru	26.2		
25	Mauritius	93.7			Philippines	59.3		
26	Nicaragua	91.0			Romania	56.6		
27	Nigeria	38.3			Rwanda	20.8		
28	Norway	54.9			Sierra Leone	17.0		
29	Pakistan	34.7			Slovak Republic	108.0		
30	Poland	50.2			South Africa	49.5		
Total	30		11		30		10	

Sources: Exchange Rate Arrangements and Exchange Restrictions, IMF, 1998. TDR is trade dependency ratio (trade/GDP).

Appendix 4: Exchange Rate Arrangements Based on Economy Size Under Fixed Exchange Rate Regime (Billions USD)

No.	Single Peg		Basket Peg		Flexibility Limited	
	Country	GDP	Country	GDP	Country	GDP
1	Antigua and Barbuda	0.6	Bangladesh	32.9	Austria	228.1
2	Argentina	32.5	Botswana	4.8	Belgium	242.5
3	Bahamas, The	2.5	Cyprus	8.9	Denmark	170.1
4	Barbados	2.2	Fiji	2.1	Finland	119.8
5	Belize	0.6	Iceland	7.4	French	1,392.5
6	Benin	2.1	Jordan	7.1	Germany	2,102.7
7	Bhutan	0.4	Kuwait	30.4	Greece	98.9
8	Brunei Darussalam	5.0	Latvia	5.3	Ireland	73.2
9	Bulgaria	10.2	Lybyan Arab Jamahiriya	30.3	Italy	1,145.4
10	Burkina	2.4	Malta	3.3	Netherland	360.5
11	Cameroon	8.6	Morocco	36.1	Portugal	108.9
12	Cape Verde	1.1	Myanmar	180.4	Spain	532.1
13	Central African Rep.	1.1	Nepal	4.8	Bahrain	6.1
14	Chad	1.1	Seychelles	0.5	United Arab Emirates	35.4
15	Congo Rep.of	2.1	Tonga	0.2	Saudi Arabia	125.7
16	Cote d'Ivoire	10.3	Vanuatu	0.2		
17	Dominica	0.2				
18	Equatorial Guinea	0.3				
19	Estonia	4.7				
20	Gabon	5.7				
21	Grenada	0.3				
22	Guinea-Bissau	0.3				
23	Lesotho	1.2				
24	Lithuania	10.7				
25	Malaysia	71.0				
26	Mali	2.4				
27	Namibia	3.2				
28	Niger	1.6				
29	Oman	16.1				
30	Panama	8.7				
31	St.Kitts and Nevis	0.3				
32	St. Lucia	0.6				
33	St.Vincent & the Greadines	0.3				
34	Senegal	4.5				
35	Swaziland	1.3				
36	Syrian Arab Rep.	64.9				
37	Togo	1.4				
Total	37		16		15	

Sources: IFS and Exchange rate Arrangements and Exchange restrictions, 1998, IMF.

Appendix 5: Exchange Rate Arrangements Based on Economy Size Under Flexible Exchange Rate Regime (Billions USD)

No	Managed Floating				Independent Floating			
	Country	GDP	Country	GDP	Country	GDP	Country	GDP
1	Algeria	41.2	Romania	34.8	Armenia	1.6	Sweden	226.5
2	Belarus	13.7	Russian Federation	276.7	Australia	393.9	Switzerland	255.3
3	Bolivia	7.9	Singapore	96.3	Azerbajian	77.1	Tanzania	7.7
4	Chile	77.1	Slovenia	18.2	Brazil	804.1	Thailand	153.9
5	China	917.7	Sri Lanka	15.1	Canada	598.8	Trinidad and Tobago	5.9
6	Hog Kong,SAR	166.4	**Sudan**	10.2	Congo, Dem. Rep.	2.1	Uganda	6.3
7	Colombia	86.4	**Suriname**	5.8	Gambia, The	0.3	United Kingdom	1,288.2
8	Costa Rica	9.8	**Tunisia**	20.0	Ghana	6.9	United States	8,510.7
9	Czech Republic	55.0	**Turkey**	189.1	Guatemala	19.0	Yemen, Rep. Of	5.7
10	Dominican Republic	15.8	**Ukraine**	50.0	Guyana	0.7	Zambia	3.9
11	Equador	19.8	**Venezuela**	95.0	Haiti	3.1	Zimbabwe	8.5
12	Egypt	82.7			India	430.5		
13	El Salvador	11.9			Indonesia	215.0		
14	Ethiopia	6.3			Jamaica	5.9		
15	Honduras	5.3			Japan	4,192.7		
16	Hungary	44.9			Korea	442.5		
17	Iran, Islamic Rep.	160.2			Madagascar	3.5		
18	Israel	97.5			Mexico	402.5		
19	Kenya	10.2			Moldova	1.9		
20	Kyrgyz Rep.	1.8			Mongolia	0.9		
21	Lao People's Dem. Rep	1.7			Mozambique	1.5		
22	Macedonia, fmr. Yug. Rep	3.1			New Zealand	65.1		
23	Malawi	2.5			Papua New Guinea	5.0		
24	Mauritania	1.1			Paraguay	9.6		
25	Mauritius	4.2			Peru	0.1		
26	Nicaragua	2.0			Philippines	65.1		
27	Nigeria	41.4			Rwanda	2.0		
28	Norway	145.9			Sierra Leone	1.0		
29	Pakistan	61.3			Slovak Republic	19.5		
30	Poland	135.6			South Africa	116.7		
Total	30		11		30		11	

Sources: IFS and Exchange rate Arrangements and Exchange restrictions, 1998, IMF.

Appendix 6: Exchange Rate Arrangements Based on International Reserves Under Fixed Exchange Rate Regime (Billions USD)

							Flexibility Limited	
1	Angola	0.21	Niger	0.06	Bangladesh	1.93	Austria	25.23
2	Antigua & Barbuda	0.06	Oman	1.13	Botswana	6.03	Belgium	20.84
3	Argentina	24.88	Panama	0.95	Cyprus	1.51	Denmark	15.94
4	Aruba	0.25	St.Kitts & Nevis	0.05	Fiji	0.39	Finland	10.12
5	Bahamas	0.35	St. Lucia	0.07	Iceland	0.43	France	74.18
6	Barbados	0.29	St.Vinvents& Greadines	0.04	Jordan	1.95	Germany	84.25
7	Belize	0.04	Senegal	0.40	Kuwait	4.05	Greece	18.14
8	Benin	0.26	Swaziland	0.36	Latvia	0.81	Ireland	9.53
9	Bhutan	0.25	Syrian Arab Rep.	0.03	Libya (1992)	6.33	Italy	54.60
10	Bulgaria	3.13	Togo	0.12	Malta (1996)	1.63	Luxembourg (1997)	0.08
11	Burkina Faso	0.37			Morocco	4.65	Netherland	28.72
12	Cameroon	0.01			Myanmar	0.33	Portugal	19.21
13	Central African Rep.	0.15			Nepal	0.80	Spain	60.88
14	Chad	0.12			Samoa	0.06	Bahrain	1.09
15	Comoros	0.04			Seychelles	0.02	Qatar (1994)	0.70
16	Congo, Rep.of	0.00			Tonga	0.03	United Arab Emirates	9.26
17	Cote d'Ivoire	0.86			Vanuatu	0.04	Saudi Arabia	7.75
18	Djibouti	0.07						
19	Dominica	0.03						
20	Equatorial Guinea	0.00						
21	Estonia	0.81						
22	Gabon	0.02						
23	Grenada	0.05						
24	Guinea-Bissau (1996)	0.01						
25	Lesotho	0.58						
26	Lithuania	1.46						
27	Mali (1997)	0.42						
28	Malaysia	25.68						
29	Namibia	0.26						
30	Netherlands Antilles	0.35						
Total	30		10		17		17	

Sources: IFS, July 1998 and Exchange rate Arrangements and Exchange restrictions, 1998, IMF. Unless otherwise indicated, data is for 1998.

Appendix 7: Exchange Rate Arrangements Based on International Reserves Under Flexible Exchange Rate Regime (Billions USD)

No.	Managed Floating				Independent Floating			
	Country	Reserves	Country	Reserves	Country	Reserves	Country	Reserves
1	Algeria	7.12	Norway	18.64	Albania	0.38	Romania	2.87
2	Belarus	0.34	Pakistan	1.64	Armenia	0.33	Rwanda	0.17
3	Bolivia	1.12	Poland	27.38	Australia	16.14	Sao Tome & Principe	0.01
4	Cambodia	0.32	Russian	12.22	Azerbaijan	0.45	Slovakia	2.94
5	Chile	15.98	Singapore	74.93	Brazil	43.94	Sierra Leone	0.04
6	China;Mainland	149.81	Slovenia	3.64	Canada	23.43	South Africa	5.39
7	Hong Kong	89.62	Solomon Islands	0.05	Congo, Dem.Rep. (1995)	0.16	Sweden	14.33
8	Colombia	8.40	Sri Lanka (1997)	2.03	Gambia,The	0.11	Switzerland	49.86
9	Costa Rica (1993)	1.04	Sudan	0.09	Ghana	0.46	Tanzania	0.60
10	Croatia	2.82	Suriname (1997)	0.16	Guatemala	1.34	Thailand	29.54
11	Czech Republic	12.56	Tunisia	1.85	Guinea (1997)	0.12	Trinidad and Tobago (1997)	0.71
12	Dominican Rep.	0.03	Turkey	20.61	Guyana	0.28	Uganda	0.73
13	Equador	1.79	Ukraine	0.78	Haiti (1997)	0.08	United Kingdom	37.29
14	Egypt	18.67	Uruguay	2.59	India	27.34	United States	81.76
15	El Salvador	1.63	Venezuela	14.85	Indonesia	23.52	Yemen, Rep. Of	1.01
16	Ethiopia	0.51			Jamaica	0.71	Zambia	0.07
17	Honduras (1997)	0.59			Japan	216.67	Zimbabwe	0.21
18	Hungary	9.35			Korea	52.04		
19	Israel	22.67			Lebanon	9.21		
20	Kazakhstan	1.46			Liberia (1995)	0.03		
21	Kenya	0.78			Madagascar	0.17		
22	Kyrgyz, Republic	0.19			Mexico	0.00		
23	Lao People's Dem.Rep.	0.11			Moldova	0.00		
24	Macedonia, FYR	0.33			Mongolia	0.10		
25	Malawi	0.27			Mozambique	0.61		
26	Maldives	0.12			New Zealand	4.20		
27	Mauritania	0.21			Papua New Guinea	0.22		
28	Mauritius	0.59			Paraguay	0.78		
29	Nicaragua	0.35			Peru	9.83		
30	Nigeria	4.08			Philippines	10.81		
Total	30		15		30		17	

Sources: IFS July 1998 and Exchange rate Arrangements and Exchange restrictions, 1998, IMF. Unless otherwise stated, data is for 1998.

Appendix 8: The Monthly Index of Korea's NEER and REER 1990-99
1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	124.85	114.66	105.99	103.16	103.09	99.81	100.95	96.83	62.96	79.27
February	123.54	112.85	106.37	101.98	102.13	99.26	101.82	96.54	58.67	79.21
March	124.70	115.26	107.37	101.36	100.98	98.26	101.81	93.48	70.57	77.63
April	124.64	115.99	106.44	99.29	100.35	97.44	102.44	94.49	71.43	78.85
May	122.45	116.49	104.73	98.28	100.28	98.64	102.37	93.17	70.01	79.25
June	121.59	117.54	102.53	97.58	99.93	98.47	100.64	92.48	75.80	
July	119.67	116.46	101.88	97.97	98.58	99.73	98.78	93.28	85.55	
August	118.62	115.93	101.55	96.58	98.97	100.76	97.80	94.55	78.23	
September	116.29	112.98	101.29	96.88	98.75	102.17	97.77	94.37	72.70	
October	113.24	110.44	101.71	97.18	98.48	101.75	97.78	94.26	71.01	
November	113.18	109.06	103.40	98.29	98.71	101.87	97.47	85.66	74.37	
December	114.75	107.60	103.08	98.81	100.04	101.84	96.81	61.66	76.11	
REER										
January	107.75	105.12	101.14	99.28	102.07	98.90	102.31	100.21	67.98	82.69
February	107.04	104.57	101.61	98.39	101.46	98.32	103.03	100.10	63.65	82.94
March	108.87	107.80	103.19	98.75	101.03	98.34	103.59	97.44	75.79	81.52
April	109.56	108.39	102.21	96.67	100.04	97.54	104.31	98.15	77.06	82.87
May	109.27	108.80	101.02	95.72	99.63	98.61	104.57	96.68	74.17	83.60
June	109.13	109.86	99.03	95.34	99.68	97.95	102.83	95.95	78.52	
July	107.89	109.36	98.94	95.43	98.90	99.55	101.38	96.95	87.88	
August	106.59	109.24	98.36	94.03	99.12	100.75	100.45	98.65	81.06	
September	104.75	107.03	98.08	94.60	98.30	102.79	100.44	98.65	75.54	
October	102.01	104.46	98.38	95.13	97.64	102.23	100.49	98.47	74.94	
November	101.97	103.40	99.42	96.02	97.94	102.23	100.19	89.80	78.59	
December	103.56	102.20	99.26	96.55	99.11	102.77	99.71	66.10	80.29	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 9: The Monthly Index of Nepal's NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	184.50	165.57	123.01	123.03	113.79	105.97	95.01	97.81	102.98	91.92
February	183.70	161.20	124.25	113.86	112.86	104.71	92.04	99.50	100.92	93.23
March	185.32	162.44	126.01	108.43	111.91	101.72	96.06	99.89	98.69	94.45
April	184.51	161.61	125.88	108.05	111.65	99.95	96.89	100.43	98.28	94.51
May	181.72	157.16	124.76	108.67	110.80	100.46	96.99	99.54	97.15	94.59
June	181.84	155.23	123.11	109.50	109.90	100.23	96.91	99.28	95.43	
July	178.42	143.74	121.20	110.29	108.19	99.82	95.98	101.64	94.51	
August	176.25	129.42	120.45	109.36	108.07	101.04	94.81	103.44	94.84	
September	173.51	127.22	119.84	108.25	107.31	100.18	95.36	101.91	92.28	
October	165.22	126.52	120.37	108.53	106.37	96.46	95.96	101.52	89.56	
November	163.63	124.89	123.18	109.87	106.53	94.49	95.70	101.56	90.25	
December	165.30	123.37	122.91	110.32	107.17	94.97	96.50	99.68	89.87	
REER										
January	132.10	124.93	108.11	110.38	106.56	102.14	94.90	102.60	108.48	105.97
February	131.48	123.63	109.33	103.00	105.64	100.66	92.40	104.38	107.16	107.80
March	133.94	125.47	111.71	99.67	106.41	98.73	97.38	105.39	105.19	108.70
April	134.67	125.66	113.17	99.79	107.42	97.72	98.98	105.30	105.49	109.29
May	133.69	123.70	114.19	101.20	107.63	99.12	100.30	103.84	104.96	110.57
June	134.47	125.23	114.30	103.17	107.48	100.57	102.24	103.84	104.83	
July	133.70	120.29	114.08	106.53	106.96	101.99	103.18	107.84	107.08	
August	133.45	112.29	114.91	108.50	107.64	103.63	102.91	110.46	110.26	
September	132.42	113.62	114.76	108.37	107.94	102.76	104.05	109.16	108.61	
October	126.83	113.49	114.83	107.67	107.75	99.64	105.00	108.90	106.55	
November	124.93	110.75	115.05	106.53	106.66	96.72	103.57	107.44	106.10	
December	123.72	108.49	111.89	104.47	104.92	95.30	102.30	104.36	103.23	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 10: The Monthly Index of Thailand's NEER and REER 1990-99 1995=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	114.66	111.44	108.11	108.59	107.27	102.16	102.65	105.32	60.64	82.26
February	114.47	110.38	108.55	108.11	106.28	101.76	102.73	106.70	68.82	82.60
March	116.33	112.52	109.94	107.25	105.83	99.60	102.88	106.98	76.64	82.95
April	117.36	112.96	109.88	105.83	105.37	97.57	103.29	107.53	79.74	82.58
May	116.19	113.15	108.97	105.22	105.01	97.67	103.15	106.32	82.40	84.05
June	116.46	113.90	107.85	104.89	104.58	97.34	103.60	105.42	79.37	
July	115.19	113.30	107.08	105.35	103.29	97.87	103.65	90.60	81.80	
August	114.34	113.03	107.05	104.62	103.27	99.99	103.31	86.51	81.39	
September	112.58	111.52	106.35	104.32	102.76	101.66	103.67	78.44	80.34	
October	110.25	110.59	106.48	104.59	102.24	101.25	104.21	77.04	80.05	
November	110.06	109.66	107.81	105.08	102.12	101.45	103.90	74.63	83.19	
December	111.16	108.97	108.00	105.34	102.62	101.68	104.26	68.18	82.93	
REER										
January	105.12	103.96	102.51	102.60	103.07	99.71	105.28	110.31	66.93	91.04
February	105.65	103.36	102.96	102.73	102.44	99.48	105.40	111.95	76.02	91.49
March	107.19	104.97	103.46	101.61	102.69	97.71	105.78	112.90	85.25	91.83
April	107.90	106.26	102.97	100.56	101.83	96.01	106.12	112.70	89.28	90.70
May	107.16	106.68	103.40	100.04	102.01	96.91	106.09	111.67	92.13	92.15
June	107.64	107.44	102.77	99.92	102.25	97.03	106.68	110.71	88.47	
July	106.74	106.28	102.41	100.79	100.86	98.07	106.93	95.78	90.97	
August	105.76	106.52	102.96	100.16	100.99	100.75	107.31	93.64	91.13	
September	103.90	106.04	101.94	100.52	101.06	103.09	107.62	84.92	89.53	
October	103.41	105.43	101.82	100.49	100.39	103.56	108.68	83.98	89.37	
November	103.79	103.95	102.51	100.70	99.39	103.79	108.85	82.20	92.76	
December	104.09	102.99	102.25	101.12	99.84	103.96	109.09	74.88	92.13	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 11: The Monthly Index of Singapore's NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	81.98	86.68	91.64	90.92	94.68	99.54	102.92	106.87	120.66	112.77
February	83.07	87.27	91.51	91.26	95.06	99.03	103.43	107.41	120.59	112.41
March	83.91	87.46	91.27	90.60	94.67	99.27	103.81	106.37	122.43	111.85
April	84.59	87.52	91.31	90.42	95.45	98.60	104.09	106.73	120.71	112.44
May	84.64	87.88	91.34	90.68	95.75	99.31	104.01	105.95	122.26	111.94
June	85.37	88.23	91.25	90.42	96.18	98.90	104.44	105.96	126.26	
July	85.56	89.10	90.90	90.79	96.01	99.19	103.90	106.52	126.33	
August	86.23	90.40	91.15	90.72	96.60	100.18	103.74	106.51	121.49	
September	86.27	90.64	91.25	91.19	97.10	100.52	104.61	108.62	117.29	
October	86.53	90.44	91.07	93.14	97.57	101.00	104.96	109.00	116.08	
November	87.32	90.93	91.10	92.28	98.16	102.18	105.51	109.41	114.57	
December	87.39	91.73	91.10	92.51	99.05	102.30	106.34	114.00	112.89	
REER										
January	89.47	93.05	97.13	95.01	97.60	100.69	101.56	104.54	113.69	98.61
February	90.38	94.13	96.29	94.48	97.57	99.84	102.40	105.16	112.27	98.30
March	90.50	93.53	95.51	93.70	96.53	99.67	102.15	103.69	112.54	97.56
April	91.00	93.43	95.37	93.31	97.69	98.95	102.04	103.91	111.05	98.48
May	90.87	93.61	95.53	93.63	98.22	99.64	102.15	103.06	111.04	98.82
June	91.73	93.92	95.32	93.21	98.71	99.21	102.63	103.08	111.86	
July	91.88	94.83	95.37	93.76	98.44	99.29	102.05	103.84	111.15	
August	92.48	95.78	95.08	93.43	98.40	99.86	101.61	103.73	107.23	
September	92.66	96.12	94.89	93.61	98.57	99.75	102.29	105.51	102.98	
October	93.28	95.50	94.95	95.76	99.27	100.28	102.52	105.66	102.80	
November	94.07	95.92	95.02	95.07	100.18	101.60	103.25	106.15	101.94	
December	94.27	97.53	95.03	95.25	100.62	101.30	104.11	109.86	100.22	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 12: The Monthly Index of Malaysia's NEER and REER 1990-99 1995=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	109.54	104.04	101.81	106.93	100.76	100.39	101.45	107.67	75.15	79.96
February	109.22	103.39	106.23	105.13	97.47	100.02	101.80	109.85	84.03	81.14
March	110.96	104.63	109.22	105.05	98.59	97.36	101.85	110.74	84.76	82.46
April	111.69	104.98	110.34	104.34	99.13	97.51	103.61	110.55	84.16	82.12
May	111.26	105.09	110.34	104.32	101.26	98.51	104.33	108.61	84.39	82.10
June	110.96	105.17	109.12	104.00	101.74	99.28	104.84	106.94	84.37	
July	109.33	104.26	108.89	104.52	99.93	99.83	105.22	106.20	80.73	
August	108.46	104.03	108.88	104.14	101.15	103.27	104.63	101.96	80.38	
September	106.29	103.20	107.80	104.13	100.86	101.84	104.86	94.33	86.06	
October	103.20	102.74	108.08	104.35	100.20	100.60	105.33	87.40	80.83	
November	102.95	101.91	109.33	104.92	99.96	100.61	104.20	86.73	79.98	
December	104.07	100.85	107.53	104.76	100.59	100.79	104.76	82.70	79.41	
REER										
January	104.99	98.97	97.81	104.04	99.21	100.19	102.42	109.62	76.48	86.04
February	104.93	98.46	102.12	102.37	96.59	100.28	102.97	112.12	86.31	87.43
March	106.13	99.57	104.79	102.18	97.14	97.45	102.62	112.90	87.22	88.83
April	106.50	99.99	105.93	101.24	97.07	97.07	104.25	111.60	86.78	88.26
May	105.89	100.11	106.61	101.37	98.94	98.31	105.28	109.93	86.65	88.71
June	105.38	100.72	105.46	101.14	100.55	98.89	106.00	107.90	86.45	
July	103.45	99.32	105.57	101.91	99.23	99.74	106.59	107.09	82.17	
August	102.10	99.06	105.83	101.10	99.98	103.17	105.60	102.71	82.13	
September	99.77	97.79	104.34	100.92	99.86	101.66	106.01	94.88	87.89	
October	96.90	97.24	104.20	101.19	99.35	100.65	106.40	88.09	83.00	
November	97.59	96.80	106.47	102.36	99.58	101.18	105.71	87.86	82.88	
December	99.12	96.47	105.08	102.54	100.51	101.52	106.33	83.83	82.45	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 13: The Monthly Index of Sri Lanka's NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	132.50	125.91	121.12	107.88	111.78	104.21	96.84	94.44	101.68	86.70
February	131.92	123.94	121.64	114.80	111.26	103.58	96.89	95.33	99.68	87.22
March	134 11	127.36	122.58	114.30	110.52	101.93	96.59	95.26	97.10	87.60
April	134.62	129.36	121.52	110.41	110.21	100.78	96.91	94.56	95.67	87.09
May	133.24	129.51	119.68	109.64	109.19	100.77	96.89	93.19	95.41	86.64
June	133.52	130.81	117.39	114.56	108.18	99.90	96.12	92.63	95.89	
July	131.37	131.82	115.37	110.02	107.22	99.06	95.15	93.31	94.14	
August	129.46	129.37	114.59	109.43	106.77	99.72	94.32	94.59	94.24	
September	128.53	127.25	114.31	108.54	106.06	99.72	94.08	94.79	91.92	
October	124.99	125.90	115.40	109.00	105.41	97.63	93.92	94.51	88.84	
November	124.10	123.69	118.02	109.80	105.71	96.65	93.35	95.27	87.88	
December	125.63	121.90	116.85	109.99	105.68	96.05	93.81	99.62	86.53	
REER										
January	94.58	98.29	101.88	100.43	110.65	101.40	101.91	112.21	133.26	115.14
February	95.24	96.51	100.61	105.95	110.77	100.23	101.96	112.29	128.44	115.40
March	97.36	100.58	101.58	103.51	110.22	96.95	101.39	111.01	122.98	114.02
April	98.20	102.70	101.43	98.15	110.25	97.63	104.14	109.93	119.87	115.00
May	98.40	103.74	101.26	99.46	106.68	102.32	108.79	109.87	123.09	116.82
June	99.70	105.92	102.67	105.95	105.49	103.16	112.34	109.48	126.17	
July	99.30	106.21	98.89	102.43	101.26	101.83	109.95	112.48	122.39	
August	97.11	104.00	97.23	101.73	101.38	99.41	108.86	113.91	118.49	
September	96.24	100.78	97.89	99.41	96.88	97.44	108.69	113.97	114.19	
October	93.49	100.01	99.25	99.65	95.50	97.44	108.83	113.67	111.90	
November	96.93	100.88	103.89	103.85	98.67	100.29	109.22	118.33	112.42	
December	99.82	101.22	106.50	106.38	102.50	100.89	111.22	127.22	112.16	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 14: The Monthly Index of Indonesia's NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	148.38	133.40	124.22	122.11	117.41	105.20	102.25	103.62	30.50	30.50
February	147.75	131.02	125.01	121.09	114.63	104.20	101.61	105.70	32.27	31.02
March	150.88	134.67	127.29	119.63	113.20	100.29	101.04	105.72	29.26	31.03
April	152.67	135.32	127.17	116.92	112.02	96.79	101.34	106.17	35.76	32.24
May	149.71	135.32	125.21	115.75	111.36	96.87	100.78	103.47	29.19	34.69
June	149.27	136.35	122.81	114.79	110.32	96.20	101.94	101.67	21.83	
July	145.97	135.30	121.21	115.21	107.75	96.68	101.89	99.99	20.96	
August	143.52	134.61	121.11	113.37	107.68	99.58	100.80	91.81	25.01	
September	139.36	131.91	119.64	112.75	106.56	101.75	102.25	85.18	26.62	
October	134.18	129.79	119.45	113.28	105.70	100.88	103.31	72.40	32.96	
November	133.91	128.03	121.43	114.64	105.42	100.93	102.80	76.97	35.32	
December	134.03	126.15	121.44	115.15	106.13	100.63	102.38	58.38	34.59	
REER										
January	110.16	104.24	103.19	106.01	107.54	101.93	107.84	111.85	37.29	62.97
February	110.35	102.46	103.76	107.00	106.26	102.06	108.18	114.69	44.45	64.84
March	111.63	104.92	105.84	106.99	105.39	98.72	106.69	114.79	42.54	64.81
April	113.24	106.89	105.81	104.13	104.13	96.39	106.70	114.65	54.21	66.91
May	111.52	106.52	104.04	103.01	103.71	96.65	106.50	111.84	46.60	71.49
June	112.66	107.76	102.72	102.23	102.67	95.97	106.96	109.64	36.48	
July	112.64	108.84	101.76	103.10	101.53	97.25	107.65	108.67	38.10	
August	110.84	109.95	101.54	101.55	101.60	100.16	106.06	100.41	48.28	
September	107.49	107.74	100.11	101.05	100.84	102.34	107.56	93.82	53.06	
October	104.20	106.32	100.32	101.96	100.80	102.26	109.09	80.81	65.32	
November	104.52	105.75	102.30	103.67	100.99	102.82	109.04	86.79	70.09	
December	104.52	104.48	102.96	104.30	102.18	103.25	108.81	66.68	69.63	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 15: The Monthly Index of Taiwan's NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	114.65	105.95	112.75	112.51	108.08	103.10	99.99	103.89	101.14	98.47
February	114.35	105.01	114.24	110.16	106.87	102.40	99.67	105.48	101.88	98.86
March	115.71	107.34	114.49	108.28	106.32	100.55	100.06	105.78	102.57	98.55
April	116.94	107.98	114.99	106.58	105.95	100.87	101.51	106.30	99.81	99.02
May	112.71	108.60	115.19	106.19	103.87	100.93	100.87	104.03	100.78	99.45
June	111.21	110.16	114.82	104.77	102.45	99.71	100.23	102.60	102.30	
July	110.47	110.48	113.57	103.94	102.24	98.51	100.62	103.54	102.60	
August	108.83	111.30	111.82	101.74	103.36	97.31	100.35	102.85	101.39	
September	106.67	110.39	110.47	101.57	103.62	98.48	100.98	104.63	98.04	
October	103.94	110.02	110.41	102.38	103.44	99.97	101.72	102.73	96.89	
November	103.90	110.95	111.75	103.02	103.17	99.07	101.50	96.74	97.55	
December	105.76	110.96	111.89	103.97	103.30	99.10	102.24	99.67	97.44	
REER										
January	114.69	106.12	112.88	112.34	107.48	103.28	99.57	102.71	98.39	92.62
February	113.65	105.46	114.78	109.91	106.93	101.72	99.78	105.08	97.72	94.00
March	115.13	106.71	114.57	108.06	105.81	99.92	99.32	103.76	98.48	91.93
April	116.56	107.39	116.06	106.99	105.94	101.17	101.48	104.17	96.12	92.82
May	113.08	107.76	116.41	105.93	104.45	100.67	100.45	101.85	95.90	93.82
June	110.99	109.41	115.58	106.39	102.46	100.36	100.44	101.98	97.65	
July	110.94	110.27	113.56	103.45	102.23	98.58	99.22	102.73	96.79	
August	110.55	110.87	110.86	100.53	104.99	97.22	102.49	101.61	95.46	
September	111.54	109.98	112.63	100.70	105.22	98.58	102.28	103.65	92.62	
October	105.89	110.26	112.44	101.71	103.70	99.85	102.51	100.18	92.90	
November	103.84	111.25	111.83	102.58	102.38	99.42	102.20	94.26	94.86	
December	105.37	110.21	111.14	103.97	101.94	99.32	102.04	96.85	93.13	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 16: The Monthly Index of Philippines' NEER and REER 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	133.63	102.81	106.06	112.44	100.19	106.93	101.84	105.46	75.45	77.19
February	132.52	101.63	108.47	111.75	99.11	104.61	101.96	107.35	77.99	77.56
March	134.61	104.43	111.86	110.39	98.71	98.33	101.90	107.73	79.61	78.46
April	136.17	105.46	112.54	105.49	98.45	95.30	102.45	108.43	80.95	79.80
May	133.59	106.19	109.28	101.36	99.89	96.43	102.41	106.64	80.22	81.02
June	132.68	107.26	107.96	100.28	99.65	96.91	103.08	105.46	79.55	
July	128.08	107.43	110.62	99.60	99.93	98.29	103.12	101.66	76.44	
August	122.20	108.83	113.25	97.18	100.68	100.24	102.59	97.66	75.42	
September	115.44	108.14	112.07	96.03	101.68	101.23	103.10	89.47	71.95	
October	110.62	107.04	111.99	93.39	103.27	100.78	103.80	84.62	70.24	
November	101.26	107.16	113.26	96.29	108.08	100.44	103.49	86.33	75.02	
December	102.54	106.50	111.60	99.20	109.53	100.50	104.08	84.30	75.95	
REER										
January	94.77	81.49	90.01	99.50	94.13	104.02	107.61	114.84	85.82	96.57
February	93.94	81.97	92.15	98.99	93.75	102.06	108.13	117.12	89.91	97.02
March	95.27	84.66	95.11	97.71	93.11	96.13	108.15	118.03	92.50	97.91
April	96.37	85.60	95.57	93.23	92.76	93.07	108.52	118.06	94.37	99.00
May	94.73	86.27	93.48	89.64	94.34	94.84	108.44	116.09	94.52	100.58
June	94.97	88.02	93.23	89.39	94.44	95.94	109.89	115.96	95.39	
July	92.99	88.91	96.41	89.90	95.32	98.17	110.14	111.99	92.01	
August	88.48	90.93	99.18	88.15	96.13	101.33	110.12	107.91	91.22	
September	83.77	91.00	98.41	87.86	97.02	104.05	110.25	99.31	86.94	
October	81.32	89.60	98.41	85.85	98.39	103.66	110.90	94.20	85.10	
November	75.78	89.89	99.77	88.75	102.98	103.18	110.64	96.88	92.34	
December	79.23	89.87	98.44	91.61	104.50	103.49	112.04	94.87	93.38	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 17: The Monthly Index of Mongolia's NEER and REER 1994-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NEER										
January	na	na	na	na	86.19	102.53	96.93	71.51	65.96	120.40
February	na	na	na	na	86.22	103.70	95.87	70.41	65.72	115.52
March	na	na	na	na	86.26	105.60	95.87	63.87	66.12	112.79
April	na	na	na	na	85.55	103.53	95.91	63.90	66.37	118.73
May	na	na	na	na	87.18	104.64	93.90	66.00	66.40	119.23
June	na	na	na	na	88.18	99.67	91.18	64.70	65.35	
July	na	na	na	na	87.82	97.78	90.08	64.79	65.88	
August	na	na	na	na	87.87	96.16	92.60	65.05	67.93	
September	na	na	na	na	89.62	97.25	82.69	65.22	98.68	
October	na	na	na	na	96.04	96.66	81.35	65.17	102.49	
November	na	na	na	76.35	97.70	96.25	74.96	65.33	103.18	
December	na	na	na	76.53	98.81	96.25	72.20	65.71	114.65	
REER										
January	na	na	na	na	52.31	82.38	126.09	127.58	140.17	248.57
February	na	na	na	na	53.72	79.84	126.24	121.78	131.59	226.80
March	na	na	na	na	56.94	89.50	132.58	121.50	147.86	257.88
April	na	na	na	na	58.30	90.74	141.15	131.42	156.81	288.45
May	na	na	na	na	60.54	99.95	148.16	150.25	166.47	325.51
June	na	na	na	na	58.71	93.19	140.51	151.87	157.14	
July	na	na	na	na	66.62	108.30	141.96	154.51	161.58	
August	na	na	na	na	64.32	106.44	148.68	145.39	161.38	
September	na	na	na	na	67.07	109.14	146.14	141.48	192.59	
October	na	na	na	na	74.08	106.81	139.04	135.81	219.51	
November	na	na	na	42.67	77.21	108.32	130.73	138.08	220.89	
December	na	na	na	43.25	79.42	125.30	131.43	142.25	247.63	

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 18: Korea's Inflation and Trade Weighted Inflation 1990-99 1995=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	5.92	10.61	7.71	4.51	6.35	5.13	4.81	4.68	8.30	1.45
February	6.50	11.16	6.89	4.57	6.81	4.40	4.79	4.86	9.56	0.16
March	7.13	11.17	6.63	4.79	6.40	4.56	4.44	4.54	8.97	0.50
April	8.28	10.07	6.75	4.76	5.95	5.03	4.51	4.31	8.83	0.41
May	8.93	8.66	6.79	4.47	5.68	5.16	4.90	3.81	8.18	0.76
June	9.42	8.19	6.78	4.81	5.90	4.11	5.22	4.00	7.52	0.59
July	10.01	8.39	6.56	4.27	6.89	3.54	5.40	3.70	7.33	0.25
August	9.52	8.95	5.87	4.44	7.35	3.37	5.27	3.97	6.91	0.93
September	9.35	8.71	5.66	4.59	6.50	4.61	4.53	4.24	6.88	0.76
October	9.33	8.66	5.38	5.11	5.75	4.42	5.05	4.24	7.24	
November	8.99	9.32	4.37	5.47	6.08	4.05	5.26	4.34	6.78	
December	9.40	9.18	4.46	5.80	5.56	4.69	4.93	6.57	3.97	
Average	8.56	9.42	6.15	4.80	6.27	4.42	4.92	4.44	7.54	0.65
Trade Weighted Inflation										
January	4.36	4.74	3.68	3.49	4.05	4.81	2.50	2.78	2.44	3.84
February	4.41	4.62	3.75	3.53	4.35	4.50	2.66	2.69	2.74	3.19
March	4.40	4.47	3.93	3.51	4.23	4.26	2.78	2.35	3.36	2.67
April	3.93	4.38	3.95	3.62	4.02	4.37	2.82	2.47	3.11	2.55
May	3.82	4.49	3.59	3.71	4.09	4.33	2.75	2.36	3.37	1.99
June	3.76	4.53	3.63	3.79	4.14	4.25	2.57	2.52	3.45	1.55
July	3.88	4.60	3.32	4.09	4.21	3.93	2.67	2.56	3.76	
August	4.48	4.30	3.26	4.14	4.66	3.50	2.65	2.50	3.89	
September	4.79	3.73	3.56	3.83	4.79	3.47	2.53	2.56	4.05	
October	4.92	3.69	3.19	3.87	4.78	2.94	2.89	2.54	4.01	
November	5.15	3.98	2.95	3.83	4.86	2.79	2.96	2.36	4.09	
December	5.14	3.86	3.07	4.15	4.57	2.74	3.03	2.22	3.95	
Average	4.42	4.28	3.49	3.80	4.40	3.82	2.73	2.49	3.52	2.63

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 19: Nepal's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	8.39	10.18	21.95	6.75	8.94	8.82	7.85	9.45	4.27	11.69
February	8.92	11.83	20.40	7.38	8.38	8.25	8.74	8.65	4.82	10.74
March	9.71	11.21	20.57	7.85	8.68	7.46	8.94	7.85	4.64	9.74
April	10.03	10.67	21.69	6.71	9.38	7.04	9.09	6.24	5.77	9.60
May	9.45	11.38	22.23	5.57	9.76	7.05	9.21	4.12	7.34	9.46
June	8.09	13.78	20.64	5.59	9.38	8.09	9.24	2.28	9.08	8.65
July	7.52	16.45	18.22	6.93	7.77	8.84	9.32	1.71	11.05	6.86
August	7.74	19.53	15.38	8.53	6.14	8.04	9.96	1.33	12.88	5.52
September	7.50	22.06	12.43	9.17	6.37	6.85	10.32	1.21	14.11	4.97
October	7.08	21.87	10.97	8.85	7.89	6.82	9.83	1.21	15.48	
November	7.28	21.34	9.83	8.79	8.98	6.97	9.74	0.77	15.66	
December	7.88	22.53	7.90	9.39	8.81	6.98	10.09	2.01	13.24	
Average	8.30	16.07	16.85	7.63	8.37	7.60	9.36	3.90	9.86	8.58
Trade Weighted Inflation										
January	4.51	5.51	5.67	4.47	5.05	5.63	4.11	4.51	3.89	2.40
February	4.60	5.41	5.69	4.45	5.38	5.34	4.19	4.35	3.56	2.00
March	4.67	5.05	5.92	4.53	5.37	5.18	4.35	3.98	3.62	2.00
April	4.48	4.94	6.06	4.49	5.20	5.28	4.48	3.86	3.40	2.07
May	4.35	5.09	5.96	4.30	5.43	5.33	4.30	3.47	3.81	1.53
June	4.39	5.29	5.75	4.45	5.62	5.29	4.03	3.41	4.04	
July	4.49	5.62	5.58	4.43	5.62	5.26	4.03	3.34	4.33	
August	4.72	5.56	5.34	4.64	5.97	4.94	4.03	3.31	4.04	
September	4.91	5.47	5.16	4.68	6.09	4.79	3.87	3.32	4.20	
October	5.59	5.21	4.59	4.85	5.94	4.72	3.89	3.43	4.44	
November	5.90	5.31	4.32	5.00	5.88	4.61	4.01	3.22	4.58	
December	6.03	5.22	4.25	5.29	5.59	4.38	4.46	3.33	3.58	
Average	4.89	5.31	5.36	4.63	5.60	5.06	4.15	3.63	3.96	1.67

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 20: Thailand's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	6.09	6.17	5.00	2.86	4.50	5.17	7.33	4.38	8.57	3.54
February	5.93	5.77	4.72	3.29	4.56	4.70	7.38	4.36	8.88	2.88
March	6.29	5.40	4.39	3.61	5.45	4.24	7.33	4.52	9.52	1.58
April	6.64	6.22	3.37	4.04	4.61	5.08	6.95	4.23	10.11	0.39
May	6.59	6.27	4.14	2.80	5.22	5.38	6.14	4.31	10.24	-0.55
June	6.38	6.17	4.46	2.69	5.73	5.17	5.56	4.39	10.65	-1.17
July	5.14	5.48	5.11	3.09	5.08	5.58	5.33	4.92	9.98	-1.09
August	4.47	5.96	5.15	2.51	5.68	5.62	5.45	6.65	7.56	-1.08
September	4.45	6.61	4.16	3.32	5.63	5.82	4.57	6.90	6.95	-0.80
October	5.99	5.25	3.27	3.39	5.72	6.64	4.32	7.22	5.91	
November	6.61	4.49	3.05	3.67	5.13	7.52	4.78	7.62	4.72	
December	6.65	4.68	2.98	4.61	4.58	7.52	4.78	7.62	4.32	
Average	5.94	5.70	4.15	3.32	5.16	5.70	5.83	5.60	8.12	0.41
Trade Weighted Inflation										
January	4.31	4.79	3.43	3.19	3.16	3.47	2.23	2.43	2.22	2.79
February	4.39	4.74	3.40	3.19	3.45	3.15	2.42	2.35	2.34	2.41
March	4.41	4.61	3.55	3.16	3.31	3.01	2.49	2.11	2.71	2.06
April	4.03	4.45	3.80	2.95	3.12	3.14	2.53	2.34	2.30	2.11
May	3.87	4.44	3.62	2.89	3.21	3.12	2.49	2.26	2.40	1.82
June	3.79	4.47	3.63	2.99	3.19	3.10	2.33	2.44	2.34	1.56
July	3.88	4.55	3.32	3.27	3.16	2.83	2.46	2.50	2.40	-2.48
August	4.34	4.23	3.24	3.30	3.57	2.50	2.46	2.44	2.38	
September	4.67	3.59	3.51	3.01	3.62	2.62	2.32	2.56	2.40	
October	4.74	3.54	3.10	3.05	3.60	2.36	2.46	2.57	2.42	
November	4.96	3.89	2.80	3.01	3.70	2.28	2.51	2.38	2.60	
December	4.97	3.76	2.84	3.28	3.39	2.33	2.59	2.33	2.42	
Average	4.36	4.26	3.35	3.11	3.37	2.83	2.44	2.39	2.41	1.71

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 21: Singapore's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	3.96	3.27	2.85	2.56	2.20	2.64	0.86	1.99	1.20	-0.55
February	3.95	3.91	1.78	2.26	3.12	2.34	1.62	1.59	0.92	-0.64
March	3.73	3.82	2.10	2.57	2.41	2.55	1.43	1.60	1.02	-0.64
April	3.71	3.80	2.19	2.25	2.80	2.33	1.14	1.88	0.65	-0.28
May	3.12	3.90	2.40	2.03	3.09	2.13	1.23	1.59	0.46	0.09
June	2.89	3.89	2.18	2.14	3.49	1.83	1.13	1.68	-0.18	0.55
July	2.66	4.00	2.49	2.13	3.27	1.44	1.33	2.06	-0.37	0.64
August	2.77	3.66	2.28	2.23	3.48	1.34	1.42	2.33	-0.82	0.92
September	3.65	3.10	2.18	2.13	3.48	1.34	1.52	2.43	-1.28	1.20
October	3.85	2.33	2.49	2.22	3.46	1.05	1.42	2.52	-1.64	
November	3.51	2.55	2.48	2.32	3.55	0.86	1.51	2.33	-1.55	
December	3.72	2.96	1.74	2.62	2.85	0.86	1.99	2.04	-1.55	
Average	3.46	3.43	2.26	2.29	3.10	1.73	1.38	2.00	-0.26	0.14
Trade Weighted Inflation										
January	4.42	5.34	4.15	3.88	3.91	4.51	3.47	3.09	3.38	6.17
February	4.51	5.23	4.19	3.91	4.27	4.11	3.58	3.02	4.00	5.27
March	4.60	5.10	4.29	3.90	4.12	4.05	3.58	2.83	4.63	4.56
April	4.42	5.06	4.41	3.70	3.84	4.30	3.62	2.77	4.71	4.22
May	4.34	5.04	4.36	3.51	3.92	4.36	3.52	2.71	4.97	3.66
June	4.33	5.15	4.31	3.61	4.07	4.12	3.37	2.82	5.31	
July	4.31	5.13	4.15	3.82	4.18	3.83	3.41	2.91	5.61	
August	4.66	4.98	4.06	3.69	4.69	3.55	3.37	2.97	5.71	
September	4.93	4.37	4.33	3.51	4.74	3.65	3.18	3.06	5.83	
October	5.10	4.29	3.86	3.68	4.67	3.54	3.25	3.14	5.63	
November	5.35	4.51	3.62	3.64	4.67	3.52	3.32	3.04	5.69	
December	5.42	4.37	3.65	3.97	4.40	3.51	3.34	3.14	5.45	
Average	4.70	4.88	4.11	3.74	4.29	3.92	3.42	2.96	5.08	3.98

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 22: Malaysia's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	2.05	3.75	4.40	4.49	4.03	4.93	3.44	3.23	3.39	8.76
February	2.59	3.62	4.28	4.38	5.00	4.39	3.41	3.11	4.38	7.32
March	2.59	3.84	4.26	4.38	4.36	4.73	3.23	3.20	5.13	6.58
April	3.04	4.00	4.43	3.79	3.91	4.91	3.61	2.64	5.59	6.39
May	2.93	4.30	4.88	3.20	3.72	5.34	3.59	2.53	5.39	6.47
June	2.83	5.10	4.29	3.38	4.86	3.93	3.79	2.24	6.21	5.66
July	2.13	5.03	4.96	3.56	5.02	3.51	3.77	2.14	5.84	4.24
August	2.05	5.33	5.15	2.81	5.52	3.60	3.47	2.42	5.65	5.84
September	2.24	4.60	5.45	2.90	5.84	3.49	3.56	2.31	5.54	5.66
October	2.67	4.38	4.87	3.47	5.85	3.38	3.37	2.69	5.25	
November	2.95	4.15	5.31	3.06	5.76	3.36	3.34	2.59	5.58	
December	3.36	4.21	4.90	3.40	5.34	3.25	3.33	2.86	5.29	
Average	2.62	4.36	4.76	3.57	4.94	4.07	3.49	2.66	5.27	6.32
Trade Weighted Inflation										
January	4.56	4.95	3.47	3.12	3.12	3.48	2.33	2.54	2.43	2.59
February	4.59	4.99	3.31	3.10	3.46	3.14	2.60	2.43	2.48	2.27
March	4.62	4.81	3.48	3.13	3.30	3.03	2.63	2.22	2.81	1.92
April	4.31	4.66	3.67	2.94	3.17	3.16	2.58	2.44	2.49	1.92
May	4.13	4.61	3.55	2.83	3.32	3.10	2.54	2.33	2.59	1.65
June	4.06	4.58	3.56	2.94	3.31	3.09	2.36	2.53	2.47	
July	4.12	4.62	3.33	3.14	3.29	2.82	2.48	2.67	2.53	
August	4.52	4.30	3.21	3.18	3.70	2.49	2.56	2.67	2.41	
September	4.92	3.69	3.40	2.93	3.71	2.64	2.39	2.82	2.37	
October	5.01	3.52	3.09	2.97	3.65	2.45	2.51	2.82	2.32	
November	5.16	3.86	2.76	3.01	3.71	2.38	2.60	2.66	2.42	
December	5.19	3.79	2.71	3.32	3.35	2.44	2.71	2.63	2.24	
Average	4.60	4.36	3.29	3.05	3.42	2.85	2.52	2.56	2.46	1.72

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 23: Sri Lanka's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	19.22	15.39	12.14	14.89	10.24	2.42	11.17	16.74	13.18	3.82
February	22.00	13.70	10.73	15.68	12.11	1.04	11.84	15.57	12.13	4.99
March	22.28	14.32	9.50	12.98	14.53	-0.89	13.62	14.26	11.40	5.03
April	22.58	13.97	9.89	9.90	16.98	0.71	14.29	11.28	10.33	7.75
May	23.28	13.56	10.24	10.58	12.09	8.06	13.85	7.84	12.13	6.59
June	22.41	13.68	12.48	9.26	9.80	10.02	16.36	3.95	14.07	3.43
July	24.03	11.70	10.79	12.30	5.70	12.91	15.61	7.21	10.54	
August	20.90	12.04	9.75	13.49	6.75	8.58	19.16	7.06	6.81	
September	20.55	10.11	12.62	10.63	4.19	10.70	21.54	6.83	5.85	
October	19.52	10.63	12.49	10.10	3.28	13.54	19.88	6.55	7.55	
November	21.88	9.14	11.93	11.36	2.77	14.53	16.53	8.81	5.80	
December	19.62	9.01	13.82	10.32	4.21	11.51	16.80	10.74	3.72	
Average	21.52	12.27	11.37	11.79	8.55	7.76	15.89	9.74	9.46	3.51
Trade Weighted Inflation										
January	4.85	6.03	4.47	3.66	3.89	4.21	2.76	3.55	2.84	2.36
February	4.88	5.98	4.51	3.61	4.16	3.95	2.84	3.46	2.63	2.19
March	5.05	5.62	4.69	3.61	4.07	3.88	2.93	3.13	2.67	2.15
April	4.98	5.27	4.88	3.47	3.96	3.96	3.03	3.01	2.58	2.20
May	4.93	5.19	4.77	3.36	4.08	3.94	2.97	2.83	2.74	1.95
June	5.02	5.26	4.60	3.49	4.13	3.89	2.83	2.91	2.77	
July	5.17	5.36	4.39	3.46	4.27	3.71	2.88	2.97	2.80	
August	5.61	5.03	4.18	3.68	4.55	3.43	2.96	2.83	2.61	
September	5.90	4.52	4.29	3.50	4.51	3.49	2.84	2.88	2.66	
October	6.06	4.44	3.99	3.61	4.28	3.01	3.38	2.88	2.80	
November	6.11	4.80	3.64	3.72	4.27	2.96	3.46	2.72	2.88	
December	6.11	4.70	3.59	3.99	4.07	2.93	3.62	2.87	2.34	
Average	5.39	5.18	4.33	3.60	4.19	3.61	3.04	3.00	2.69	1.81

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 24: Indonesia's Inflation and Trade Weighted Inflation 1990-99 1995=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	6.54	9.75	9.64	7.63	8.39	9.54	11.06	4.61	15.93	71.14
February	6.25	9.03	9.57	9.54	8.10	9.05	11.07	4.03	29.74	53.68
March	5.59	9.49	10.25	10.45	7.26	8.92	9.71	4.75	36.82	45.43
April	5.12	10.32	9.19	9.60	7.36	10.49	8.20	4.86	42.46	38.83
May	5.37	9.57	9.11	9.64	7.77	10.46	8.37	4.51	49.67	30.73
June	6.95	8.66	9.33	9.20	7.64	10.50	7.39	5.25	56.67	24.52
July	8.83	8.33	7.53	9.68	8.39	9.78	7.38	5.37	68.72	13.49
August	9.39	9.71	5.70	9.85	9.01	9.16	6.99	6.38	77.72	5.86
September	9.69	9.31	5.78	9.95	9.29	8.99	6.78	7.34	82.40	1.33
October	10.01	9.02	5.39	10.15	9.61	8.72	6.53	8.40	79.41	
November	9.82	9.83	4.55	10.32	9.65	8.69	6.52	8.81	78.15	
December	9.92	9.98	5.04	10.18	9.64	8.98	6.04	10.31	77.63	
Average	7.79	9.42	7.59	9.68	8.51	9.44	8.00	6.22	57.94	31.67
Trade Weighted Inflation										
January	4.21	4.80	3.48	3.03	3.25	3.46	2.10	2.45	2.07	1.42
February	4.33	4.73	3.44	3.05	3.52	3.11	2.30	2.38	1.86	1.33
March	4.37	4.60	3.56	3.03	3.44	2.91	2.37	2.11	2.02	1.20
April	4.01	4.37	3.86	2.84	3.19	3.06	2.45	2.40	1.44	1.35
May	3.91	4.33	3.66	2.76	3.28	3.03	2.42	2.30	1.38	1.22
June	3.80	4.37	3.67	2.92	3.24	3.02	2.26	2.48	1.20	1.94
July	3.89	4.48	3.33	3.22	3.19	2.77	2.40	2.50	1.08	-2.83
August	4.32	4.19	3.26	3.27	3.63	2.38	2.46	2.43	0.87	
September	4.59	3.59	3.51	2.97	3.67	2.54	2.26	2.58	0.83	
October	4.67	3.58	3.02	3.00	3.65	2.27	2.44	2.57	0.97	
November	4.95	3.96	2.66	2.99	3.75	2.20	2.49	2.36	1.16	
December	4.97	3.82	2.74	3.30	3.39	2.29	2.56	2.40	0.92	
Average	4.34	4.23	3.35	3.03	3.43	2.75	2.38	2.41	1.32	0.94

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 25: Taiwan's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Months	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	3.86	4.98	3.77	3.65	2.91	5.24	2.29	1.97	1.99	0.40
February	2.80	5.77	4.06	3.06	3.94	3.43	3.76	2.05	0.30	2.08
March	3.31	4.47	4.70	3.26	3.32	3.86	3.01	1.10	2.46	-0.46
April	3.43	4.11	5.72	2.76	3.07	4.44	2.83	0.50	2.11	-0.10
May	3.72	3.40	5.73	2.06	4.38	3.29	2.88	0.76	1.66	0.50
June	3.61	4.03	5.19	4.33	2.13	4.69	2.38	1.83	1.42	-0.83
July	4.80	4.06	3.71	3.29	4.13	3.86	1.45	3.30	0.84	-0.82
August	5.65	2.59	3.00	3.33	7.05	1.71	5.03	-0.57	0.44	1.14
September	6.52	-0.71	6.15	0.74	6.69	2.02	3.84	0.62	0.41	0.59
October	3.24	2.50	5.08	1.22	5.08	2.87	3.67	-0.33	2.58	
November	3.92	4.81	3.10	3.09	3.88	4.23	3.20	-0.52	3.91	
December	4.55	3.89	3.41	4.63	2.65	4.57	2.53	0.26	2.12	
Average	4.12	3.66	4.47	2.95	4.10	3.69	3.07	0.91	1.69	0.28
Trade Weighted Inflation										
January	4.77	5.29	3.82	3.77	3.85	4.35	3.01	2.98	2.61	3.16
February	4.84	5.16	3.87	3.78	4.11	4.07	3.10	2.91	2.80	2.62
March	4.89	5.04	3.99	3.72	4.05	3.90	3.24	2.64	3.13	2.29
April	4.45	4.95	4.15	3.62	3.84	4.04	3.29	2.77	2.86	2.20
May	4.31	4.98	3.91	3.64	3.86	4.07	3.18	2.68	3.02	1.75
June	4.27	4.93	4.00	3.61	3.97	3.98	3.01	2.80	3.02	1.45
July	4.33	4.98	3.76	3.89	3.96	3.70	3.16	2.82	3.14	
August	4.81	4.73	3.71	3.92	4.33	3.41	2.95	2.94	3.15	
September	5.10	4.25	3.88	3.75	4.38	3.49	2.83	2.94	3.19	
October	5.38	4.04	3.52	3.82	4.39	3.25	2.97	2.97	2.95	
November	5.59	4.24	3.29	3.70	4.52	3.08	3.08	2.80	2.96	
December	5.57	4.11	3.38	3.94	4.32	3.02	3.20	2.71	2.83	
Average	4.86	4.72	3.77	3.76	4.13	3.70	3.08	2.61	2.97	2.25

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 26: Philippines' Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	13.29	17.32	10.64	7.57	8.94	6.56	10.88	5.47	7.00	11.54
February	12.90	19.28	9.00	7.42	9.80	5.88	11.11	5.17	8.11	9.93
March	13.43	19.81	8.66	7.02	9.56	6.29	11.07	5.33	8.48	8.72
April	13.25	19.66	8.60	6.74	9.41	6.48	11.03	5.14	8.96	7.92
May	12.80	19.54	9.07	5.97	9.72	6.95	10.17	5.13	10.08	6.60
June	11.95	19.64	8.96	5.91	9.19	7.31	9.99	5.69	10.68	5.74
July	12.33	19.05	8.75	6.44	8.53	7.36	9.36	5.76	10.66	5.72
August	10.21	20.18	8.15	6.39	8.58	8.20	8.68	5.46	10.60	5.47
September	10.39	20.12	7.95	6.80	7.53	10.26	6.35	6.48	10.03	5.70
October	11.47	18.04	8.19	7.34	6.74	10.35	6.34	6.89	10.2	10.2
November	12.35	16.60	7.91	7.33	6.51	10.16	6.63	7.47	11.3	11.3
December	14.04	13.31	7.51	7.66	6.17	10.35	7.14	7.25	10.4	10.4
Average	12.37	18.54	8.61	6.88	8.39	8.01	9.06	5.94	9.80	6.6
Trade Weighted Inflation										
January	4.53	5.15	3.37	3.11	2.74	2.98	2.13	2.53	2.20	1.47
February	4.58	5.06	3.43	3.07	2.94	2.68	2.29	2.49	2.03	1.38
March	4.69	4.84	3.60	2.98	2.88	2.58	2.38	2.26	2.17	1.19
April	4.31	4.68	3.78	2.83	2.66	2.75	2.43	2.43	1.79	1.32
May	4.19	4.58	3.65	2.73	2.75	2.73	2.41	2.36	1.80	1.21
June	4.21	4.55	3.68	2.81	2.68	2.75	2.25	2.53	1.63	1.05
July	4.31	4.57	3.39	2.96	2.71	2.52	2.39	2.62	1.45	0.98
August	4.80	4.17	3.31	2.97	3.11	2.20	2.47	2.54	1.23	
September	5.13	3.53	3.54	2.68	3.09	2.36	2.35	2.63	1.15	
October	5.16	3.49	3.15	2.74	2.98	2.25	2.52	2.60	1.15	
November	5.37	3.85	2.79	2.72	3.05	2.21	2.61	2.40	1.29	
December	5.34	3.73	2.83	2.97	2.80	2.27	2.66	2.42	1.06	
Average	4.72	4.35	3.38	2.88	2.86	2.52	2.41	2.48	1.58	1.43

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 27: Mongolia's Inflation and Trade Weighted Inflation 1990-99 1995=100

Items/ Monthly	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Domestic Inflation										
January	na	na	na	420.42	144.54	57.28	71.77	42.22	20.86	3.88
February	na	na	na	411.57	142.31	51.05	81.13	36.13	17.17	7.10
March	na	na	na	324.18	127.29	53.27	71.65	40.48	19.11	4.40
April	na	na	na	295.89	119.45	52.74	75.92	43.74	15.63	4.18
May	na	na	na	285.78	116.55	59.48	73.00	46.88	10.64	5.63
June	na	na	na	299.74	68.64	59.69	71.40	55.44	2.53	8.57
July	na	na	na	285.34	84.57	60.52	47.24	54.00	2.79	8.67
August	na	na	na	311.85	67.64	63.50	48.72	40.91	7.48	9.64
September	na	na	na	292.97	67.89	62.03	61.75	24.18	5.73	9.83
October	na	na	na	220.00	70.30	55.29	60.35	23.78	5.17	
November	na	na	na	206.48	66.93	53.17	60.90	23.01	4.75	
December	na	na	na	182.96	66.30	71.87	44.60	20.47	6.03	
Average	0.00	0.00	0.00	294.76	95.20	58.32	64.04	37.60	9.82	6.88
Trade Weighted Inflation										
January	na	na	3.93	62.06	12.06	16.04	5.85	4.10	1.83	3.03
February	na	na	68.52	12.69	10.27	13.02	5.18	3.54	1.22	1.49
March	na	na	64.67	10.80	8.54	11.85	5.40	2.64	1.64	0.59
April	na	na	61.23	10.36	9.20	11.85	5.15	3.45	1.04	1.11
May	na	na	55.26	9.96	8.98	11.77	5.12	2.78	0.94	0.54
June	na	na	58.69	11.09	8.98	10.41	4.68	2.79	0.55	0.69
July	na	na	54.49	12.09	9.71	9.19	4.63	2.68	0.42	
August	na	na	53.44	13.20	9.96	8.40	4.14	2.15	1.43	
September	na	na	55.42	12.21	11.72	7.92	4.06	1.95	12.42	
October	na	na	60.30	11.31	14.85	7.05	4.17	1.88	1.83	
November	na	na	61.62	10.43	14.94	6.76	4.34	1.83	2.20	
December	na	na	61.31	9.55	15.60	5.88	4.16	1.73	4.11	
Average	0.00	0.00	54.91	15.48	11.23	10.01	4.74	2.63	2.47	1.24

Sources: International Financial Statistics Yearbook and Direction of Trade Statistics Yearbook, IMF, various publication

Appendix 28: Korea's Directions of Trade 1993-98
(Millions US dollar, otherwise stated)

							Average
Total Export and Import	166,036	198,361	260,177	280,054	280,781	225,595	235,167
1. USA	36,066	42,132	54,577	54,976	51,748	43,208	47,118
2. Japan	31,580	38,913	49,673	47,215	42,678	29,078	39,856
3. China	9,080	11,666	16,585	19,916	23,689	18,428	16,561
4, Hong Kong	7,366	8,675	11,533	12,274	12,628	9,801	10,379
5. Germany	7,548	9,473	12,556	11,944	10,577	7,354	9,909
6. Saudi Arabia	4,679	4,694	6,540	7,764	8,192	5,708	6,263
7. Singapore	4,650	5,812	8,862	8,966	8,214	5,778	7,047
8. Indonesia	4,683	5,383	6,288	7,211	7,648	4,842	6,009
9. Taiwan	3,703	4,531	6,452	6,730	7,034	6,810	5,877
10. Malaysia	3,377	3,528	5,469	7,340	7,639	5,813	5,527
11. UK	3,062	3,445	5,264	6,216	7,348	5,942	5,213
12. Thailand	2,299	2,455	3,365	3,883	3,526	2,258	2,964
13. France	2,375	2,820	3,414	3,403	3,126	2,711	2,975
Sub-Total	120,466	143,525	190,577	197,838	194,048	147,731	165,697
Ratio to Total Export Import (percent)							
1. USA	21.72	21.24	20.98	19.63	18.43	19.15	20.19
2. Japan	19.02	19.62	19.09	16.86	15.20	12.89	17.11
3. China	5.47	5.88	6.37	7.11	8.44	8.17	6.91
4, Hong Kong	4.44	4.37	4.43	4.38	4.50	4.34	4.41
5. Germany	4.55	4.78	4.83	4.27	3.77	3.26	4.24
6. Saudi Arabia	2.82	2.37	2.51	2.77	2.92	2.53	2.65
7. Singapore	2.80	2.93	3.41	3.20	2.93	2.56	2.97
8. Indonesia	2.82	2.71	2.42	2.57	2.72	2.15	2.57
9. Taiwan	2.23	2.28	2.48	2.40	2.51	3.02	2.49
10. Malaysia	2.03	1.78	2.10	2.62	2.72	2.58	2.31
11. UK	1.84	1.74	2.02	2.22	2.62	2.63	2.18
12. Thailand	1.38	1.24	1.29	1.39	1.26	1.00	1.26
13. France	1.43	1.42	1.31	1.22	1.11	1.20	1.28
Total (percent)	72.55	72.36	73.25	70.64	69.11	65.49	70.57

Sources: IMF's Direction of Trade Statistics Yearbook and Bank of Korea's Annual Reports, various publications.

Appendix 29: Nepal's Directions of Trade 1990-97
(Millions US dollar, otherwise stated)

Destination of International Trade	1990	1991	1992	1993	1994	1995	1996	1997	Average
Total Export and Import	668	757	829	895	966	1,077	992	1,018	900
1. Germany	100	127	177	192	164	163	149	143	152
2. India	57	102	101	100	106	143	218	224	131
3. US	57	68	87	106	125	110	128	144	103
4. Japan	67	110	67	79	76	69	74	39	73
5. Singapore	81	64	59	64	76	94	55	45	67
6. Hong Kong	26	30	35	41	52	83	92	90	56
7. Thailand	11	17	26	71	110	142	31	21	54
8. China	51	36	40	39	46	59	44	73	49
Sub-Total	1,118	1,311	1,421	1,587	1,721	1,940	1,783	1,797	1,585
Ratio to Total Export Import (percent)									
1. Germany	14.97	16.78	21.35	21.45	16.98	15.13	15.02	14.05	16.97
2. India	8.53	13.47	12.18	11.17	10.97	13.28	21.98	22.00	14.20
3. US	8.53	8.98	10.49	11.84	12.94	10.21	12.90	14.15	11.26
4. Japan	10.03	14.53	8.08	8.83	7.87	6.41	7.46	3.83	8.38
5. Singapore	12.13	8.45	7.12	7.15	7.87	8.73	5.54	4.42	7.68
6. Hong Kong	3.89	3.96	4.22	4.58	5.38	7.71	9.27	8.84	5.98
7. Thailand	1.67	2.27	3.14	7.93	11.39	13.18	3.13	2.06	5.60
8. China	7.63	4.76	4.83	4.36	4.76	5.48	4.44	7.17	5.43
Total (percent)	67.38	73.21	71.41	77.32	78.16	80.13	79.74	76.52	75.48

Sources: Direction of Trade Statistics Yearbook and Nepal Rastra's Annual Reports, various publications.

Appendix 30: Thailand's Directions of Trade 1993-98 (Percent)

Destination of International Trade	1993	1994	1995	1996	1997	1998	Average 1993-98	Average Ratio Export and Import
Ratio to Total Export								
1. Japan	17.00	17.10	16.80	16.80	15.10	13.70	16.08	22.10
2. USA	21.60	21.00	17.80	18.00	19.40	22.30	20.02	16.33
3. Singapore	12.10	13.60	14.00	12.10	11.20	8.60	11.93	8.86
4. Germany	4.00	3.50	2.90	2.90	2.50	2.90	3.12	4.12
5. Malaysia	2.30	2.40	2.80	3.60	4.30	3.30	3.12	3.88
6. Taiwan	2.00	2.20	2.40	2.60	2.70	3.20	2.52	3.68
7. Hong Kong	5.30	5.30	5.20	5.80	5.90	5.10	5.43	3.38
8. China	1.50	2.10	2.90	3.40	3.00	3.30	2.70	2.88
9. UK	3.20	3.00	2.90	3.30	3.50	3.90	3.30	2.69
10. Korea	1.20	1.30	1.40	1.80	1.80	1.10	1.43	2.56
11. Netherlands	3.10	2.80	3.20	3.20	3.20	4.00	3.25	2.09
12. France	2.10	1.80	1.70	1.80	1.60	1.60	1.77	1.80
13. Indonesia	0.50	1.00	1.40	1.70	2.20	1.80	1.43	1.33
14. Italy	1.30	1.00	1.00	1.00	1.10	1.30	1.12	1.33
15. Philippines	0.50	0.50	0.70	1.10	1.20	1.40	0.90	0.87
Total	77.70	78.60	77.10	79.10	78.70	77.50	78.12	77.89
Ratio to Total Import								
1. Japan	30.30	30.20	30.50	28.30	25.70	23.70	28.12	22.10
2. USA	11.60	11.80	12.00	12.50	13.80	14.10	12.63	16.33
3. Singapore	6.50	6.30	5.90	5.50	5.00	5.50	5.78	8.86
4. Germany	5.40	5.80	5.30	5.10	4.80	4.30	5.12	4.12
5. Malaysia	3.60	4.80	4.60	5.00	4.80	5.10	4.65	3.88
6. Taiwan	5.10	5.10	4.80	4.30	4.60	5.20	4.85	3.68
7. Hong Kong	1.20	1.30	1.10	1.20	1.30	1.80	1.32	3.38
8. China	2.40	2.50	3.00	2.70	3.60	4.20	3.07	2.88
9. UK	2.30	2.10	2.10	2.20	2.10	1.70	2.08	2.69
10. Korea	4.20	3.60	3.50	3.70	3.60	3.50	3.68	2.56
11. Netherlands	0.90	0.90	1.00	0.80	1.00	1.00	0.93	2.09
12. France	2.00	1.40	2.70	1.60	1.30	2.00	1.83	1.80
13. Indonesia	0.80	0.80	1.00	1.30	1.40	2.10	1.23	1.33
14. Italy	2.00	1.50	1.50	1.80	1.40	1.00	1.53	1.33
15. Philippines	0.40	0.60	0.80	0.80	0.90	1.50	0.83	0.87
Total	78.70	78.70	79.80	76.80	75.30	76.70	77.67	77.89

Sources: Direction of Trade Statistics Yearbook and Bank of Thailand's Annual Reports, various publications.

Appendix 31: Singapore's Directions of Trade 1990-98 (Millions US dollar, otherwise stated)

Destination of International Trade	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Total Export and Import	113,707	125,453	135,612	159,419	199,553	242,581	256,454	257,156	213,901	189,315
1. US	21,016	22,175	25,278	29,029	33,723	40,301	44,611	45,507	39,209	33,428
2. Malaysia	15,130	18,928	18,541	24,539	35,754	41,915	42,233	41,834	35,540	30,490
3. Japan	16,879	19,248	20,027	24,189	29,277	35,527	34,093	32,132	23,376	26,083
4. Hong Kong	5,308	6,252	7,165	9,114	11,839	14,233	14,408	15,942	11,925	10,687
5. Thailand	5,160	5,813	6,636	7,731	10,240	13,242	14,272	12,600	9,998	9,521
6. Taiwan	4,469	4,807	5,469	6,251	7,829	9,929	10,135	11,163	8,632	7,632
7. Germany	4,312	4,624	5,053	5,546	6,867	8,321	8,632	8,150	5,026	6,281
8. Indonesia	3,248	4,194	5,164	5,339	6,271	6,295	7,635	9,116	8,602	6,207
9. Korea	2,949	3,282	3,434	4,809	6,448	8,642	10,579	7,831	6,189	6,018
10. China	2,894	3,085	3,366	4,309	4,983	6,801	7,834	9,721	9,744	5,860
11. UK	3,553	3,701	3,898	4,451	5,426	6,377	7,128	7,890	6,545	5,441
12. France	2,331	2,390	2,772	2,809	3,477	4,808	6,184	6,128	4,923	3,980
13. Netherlands	1,668	2,122	2,644	2,712	3,636	4,276	4,157	4,195	4,827	3,360
14. Philippines	984	956	1,126	1,877	2,358	3,028	3,687	4,932	4,993	2,660
Sub-total	89,901	101,577	110,573	132,705	168,128	203,694	215,588	217,141	179,529	157,649
Ratio to Total Export Import (%)										
1. US	18.48	17.68	18.64	18.21	16.90	16.61	17.40	17.70	18.33	17.77
2. Malaysia	13.31	15.09	13.67	15.39	17.92	17.28	16.47	16.27	16.62	15.78
3. Japan	14.84	15.34	14.77	15.17	14.67	14.65	13.29	12.50	10.93	14.02
4. Hong Kong	4.67	4.98	5.28	5.72	5.93	5.87	5.62	6.20	5.58	5.54
5. Thailand	4.54	4.63	4.89	4.85	5.13	5.46	5.57	4.90	4.67	4.96
6. Taiwan	3.93	3.83	4.03	3.92	3.92	4.09	3.95	4.34	4.04	4.01
7. Germany	3.79	3.69	3.73	3.48	3.44	3.43	3.37	3.17	2.35	3.38
8. Indonesia	2.86	3.34	3.81	3.35	3.14	2.60	2.98	3.54	4.02	3.29
9. Korea	2.59	2.62	2.53	3.02	3.23	3.56	4.13	3.05	2.89	3.07
10. China	2.55	2.46	2.48	2.70	2.50	2.80	3.05	3.78	4.56	2.99
11. UK	3.12	2.95	2.87	2.79	2.72	2.63	2.78	3.07	3.06	2.89
12. France	2.05	1.91	2.04	1.76	1.74	1.98	2.41	2.38	2.30	2.06
13. Netherlands	1.47	1.69	1.95	1.70	1.82	1.76	1.62	1.63	2.26	1.77
14. Philippines	0.87	0.76	0.83	1.18	1.18	1.25	1.44	1.92	2.33	1.31
Total	79.06	80.97	81.54	83.24	84.25	83.97	84.06	84.44	83.93	82.83

Sources: Direction of Trade Statistics Yearbook and Monetary Authority of Singapore' Annual Reports, various publications.

Appendix 32: Malaysia's Directions of Trade 1990-98 (Millions US dollar, otherwise stated)

[illegible]	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Total Export and Import	58,590	71,154	80,629	92,779	118,494	151,348	156,762	157,781	131,673	113,246
1. Japan	11,561	15,040	15,816	18,646	22,942	30,516	29,723	27,010	19,142	21,155
2. US	9,930	11,434	13,861	17,287	22,319	27,786	26,361	27,807	27,249	20,448
3. Singapore	11,061	13,720	15,636	17,144	20,523	24,586	26,487	26,073	20,300	19,503
4. Taiwan	2,266	2,934	3,529	3,956	4,785	6,271	7,114	7,130	5,977	4,885
5. Germany	2,416	2,837	3,320	3,465	3,241	5,799	5,728	5,696	4,924	4,158
6. UK	2,760	3,201	3,003	3,410	4,134	5,162	4,738	4,650	4,247	3,923
7. Korea	2,102	2,586	2,611	3,026	3,542	5,234	6,452	7,141	5,007	4,189
8. Hong Kong	1,492	1,901	2,445	2,864	3,891	5,619	6,426	6,249	4,905	3,977
9. Thailand	1,735	1,990	2,474	2,827	3,682	4,940	5,799	5,903	4,560	3,768
10. China	1,180	1,441	1,750	2,298	3,294	3,669	3,758	4,099	3,827	2,813
11. Netherlands	997	1,156	1,328	1,503	1,753	2,304	3,015	3,763	2,547	2,041
12. Indonesia	658	1,009	1,142	1,259	1,650	2,192	2,643	2,699	2,475	1,747
13. Philippines	550	466	717	698	927	1,135	1,737	2,109	2,526	1,207
Sub-total	48,708	59,715	67,632	78,383	96,683	125,213	129,981	130,329	107,686	93,814
Ratio to Total Export Import (%)										
1. Japan	19.73	21.14	19.62	20.10	19.36	20.16	18.96	17.12	14.54	18.97
2. US	16.95	16.07	17.19	18.63	18.84	18.36	16.82	17.62	20.69	17.91
3. Singapore	18.88	19.28	19.39	18.48	17.32	16.24	16.90	16.52	15.42	17.60
4. Taiwan	3.87	4.12	4.38	4.26	4.04	4.14	4.54	4.52	4.54	4.27
5. Germany	4.12	3.99	4.12	3.73	2.74	3.83	3.65	3.61	3.74	3.73
6. UK	4.71	4.50	3.72	3.68	3.49	3.41	3.02	2.95	3.23	3.63
7. Korea	3.59	3.63	3.24	3.26	2.99	3.46	4.12	4.53	3.80	3.62
8. Hong Kong	2.55	2.67	3.03	3.09	3.28	3.71	4.10	3.96	3.73	3.35
9. Thailand	2.96	2.80	3.07	3.05	3.11	3.26	3.70	3.74	3.46	3.24
10. China	2.01	2.03	2.17	2.48	2.78	2.42	2.40	2.60	2.91	2.42
11. Netherlands	1.70	1.62	1.65	1.62	1.48	1.52	1.92	2.38	1.93	1.76
12. Indonesia	1.12	1.42	1.42	1.36	1.39	1.45	1.69	1.71	1.88	1.49
13. Philippines	0.94	0.65	0.89	0.75	0.78	0.75	1.11	1.34	1.92	1.01
Total	83.13	83.92	83.88	84.48	81.59	82.73	82.92	82.60	81.78	83.01

Sources: Direction of Trade Statistics Yearbook and Bank Negara Malaysia' s Annual Reports, various publications.

Appendix 33: Sri Lanka's Directions of Trade 1994-98 (Millions US dollar, otherwise stated)

Destination of International Trade	1994	1995	1996	1997	1998	Average
Total Export and Import	409,758	473,463	550,908	653,876	725,985	562,798
1. USA	69,182	78,224	88,106	109,309	136,914	96,347
2. Japan	34,188	35,825	41,660	42,090	48,572	40,467
3. UK	26,338	30,131	35,390	47,649	53,944	38,690
4. India	21,155	25,679	33,426	35,605	37,271	30,627
5. Korea	18,046	19,734	21,262	29,563	31,117	23,944
6. HK	17,406	21,266	23,073	27,465	29,922	23,826
7. Germany	19,384	21,586	21,726	24,385	28,068	23,030
8. Belgium	15,628	18,889	20,022	19,706	18,711	18,591
9. Taiwan	12,889	15,159	16,346	23,283	25,389	18,613
10. Singapore	15,341	16,552	17,587	20,282	22,892	18,531
11. Netherlands	9,043	11,539	11,404	12,793	12,966	11,549
12. Malaysia	9,236	12,014	11,596	11,115	13,168	11,426
13. China	7,827	8,406	8,823	10,478	15,638	10,234
15. Thailand	7,596	6,835	8,325	11,028	12,041	9,165
16. France	6,966	7,400	8,713	9,042	11,247	8,674
17. Italy	5,139	6,959	7,989	9,229	9,748	7,813
Sub-total	295,364	336,198	375,448	443,022	507,608	391,528
Ratio to Total Export Import (percent)						
1. USA	16.88	16.52	15.99	16.72	18.86	16.99
2. Japan	8.34	7.57	7.56	6.44	6.69	7.32
3. UK	6.43	6.36	6.42	7.29	7.43	6.79
4. India	5.16	5.42	6.07	5.45	5.13	5.45
5. Korea	4.40	4.17	3.86	4.52	4.29	4.25
6. HK	4.25	4.49	4.19	4.20	4.12	4.25
7. Germany	4.73	4.56	3.94	3.73	3.87	4.17
8. Belgium	3.81	3.99	3.63	3.01	2.58	3.41
9. Taiwan	3.15	3.20	2.97	3.56	3.50	3.27
10. Singapore	3.74	3.50	3.19	3.10	3.15	3.34
11. Netherlands	2.21	2.44	2.07	1.96	1.79	2.09
12. Malaysia	2.25	2.54	2.10	1.70	1.81	2.08
13. China	1.91	1.78	1.60	1.60	2.15	1.81
15. Thailand	1.85	1.44	1.51	1.69	1.66	1.63
16. France	1.70	1.56	1.58	1.38	1.55	1.56
17. Italy	1.25	1.47	1.45	1.41	1.34	1.39
Sub-total	72.08	71.01	68.15	67.75	69.92	69.78

Sources: Direction of Trade Statistics Yearbook and Central Bank of Sri Lanka's Annual Reports, various publications.

Appendix 34: Indonesia's Directions of Trade 1990-98 (Millions US dollar, otherwise stated)

Destination of International Trade	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Total Export and Import	47,512	55,011	61,247	65,151	72,037	86,047	92,743	95,123	76,185	72,340
1. Japan	16,223	17,094	16,775	17,420	18,669	21,505	21,389	20,737	13,409	18,136
2. US	5,885	6,906	8,241	8,485	9,416	11,078	11,854	12,589	10,548	9,445
3. Singapore	3,174	4,108	4,985	5,165	6,027	6,134	7,440	8,879	8,261	6,019
4. Korea	2,348	3,387	3,977	4,324	4,759	5,368	5,692	5,792	4,102	4,417
5. Germany	2,279	2,974	3,119	3,250	3,910	4,322	4,490	4,331	3,968	3,627
6. Taiwan	2,190	2,384	2,571	2,752	3,084	3,573	3,273	3,372	2,715	2,879
7. China	1,487	2,026	2,148	2,186	2,691	3,237	3,655	3,747	2,738	2,657
8. UK	958	1,257	1,563	1,787	1,774	2,091	2,311	2,361	2,053	1,795
9. Netherlands	1,295	1,343	1,606	1,712	1,568	2,113	2,160	2,052	1,198	1,672
10. Hong Kong	891	935	1,110	1,147	1,562	1,932	1,887	2,111	2,129	1,523
11. Malaysia	579	749	1,013	1,103	1,317	1,754	1,934	2,222	1,985	1,406
12. Italy	686	917	1,141	1,138	1,383	1,634	1,956	1,730	1,443	1,336
13. Thailand	372	545	698	703	808	1,440	1,918	1,715	1,785	1,109
14. India	209	275	286	435	596	860	1,397	1,387	1,016	718
Sub-total	38,576	44,899	49,232	51,606	57,563	67,040	71,357	73,025	57,349	56,739
Ratio to Total Export Import (%)										
1. Japan	34.15	31.07	27.39	26.74	25.92	24.99	23.06	21.80	17.60	25.86
2. US	12.39	12.55	13.46	13.02	13.07	12.87	12.78	13.23	13.85	13.03
3. Singapore	6.68	7.47	8.14	7.93	8.37	7.13	8.02	9.33	10.84	8.21
4. Korea	4.94	6.16	6.49	6.64	6.61	6.24	6.14	6.09	5.38	6.08
5. Germany	4.80	5.41	5.09	4.99	5.43	5.02	4.84	4.55	5.21	5.04
6. Taiwan	4.61	4.33	4.20	4.22	4.28	4.15	3.53	3.54	3.56	4.05
7. China	3.13	3.68	3.51	3.35	3.74	3.76	3.94	3.94	3.59	3.63
8. UK	2.02	2.28	2.55	2.74	2.46	2.43	2.49	2.48	2.69	2.46
9. Netherlands	2.73	2.44	2.62	2.63	2.18	2.46	2.33	2.16	1.57	2.35
10. Hong Kong	1.88	1.70	1.81	1.76	2.17	2.24	2.03	2.22	2.79	2.07
11. Malaysia	1.22	1.36	1.65	1.69	1.83	2.04	2.08	2.34	2.61	1.87
12. Italy	1.44	1.67	1.86	1.75	1.92	1.90	2.11	1.82	1.89	1.82
13. Thailand	0.78	0.99	1.14	1.08	1.12	1.67	2.07	1.80	2.34	1.44
14. India	0.44	0.50	0.47	0.67	0.83	1.00	1.51	1.46	1.33	0.91
Total	81.19	81.62	80.38	79.21	79.91	77.91	76.94	76.77	75.28	78.80

Sources: Direction of Trade Statistics Yearbook and Bank Indonesia's Annual Reports, various publications.

Appendix 35: Taiwan's Directions of Trade 1990-98 (Millions US dollar, otherwise stated)

Destination of International Trade	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Total Export and Import	121,930	139,039	153,477	162,153	178,398	215,209	218,317	236,505	215,248	182,253
1. US	34,358	36,435	39,343	40,310	42,379	47,179	46,838	52,786	49,055	43,187
2. Japan	24,336	28,047	30,660	32,163	35,007	43,423	41,173	40,713	36,325	34,650
3. Hong Kong	5,959	8,878	10,538	12,524	14,975	19,960	20,197	23,767	21,698	15,388
4. China	4,044	5,793	7,407	8,689	9,811	11,457	11,297	11,459	10,019	8,886
5. Germany	5,914	6,882	7,518	7,724	8,036	9,523	8,667	9,060	9,234	8,062
6. Singapore	3,610	3,849	4,200	4,756	5,778	7,363	7,362	8,045	5,953	5,657
7. Korea	2,556	3,034	3,451	3,811	4,755	6,899	6,823	7,390	7,155	5,097
8. Malaysia	2,107	2,874	3,430	3,611	4,551	5,852	6,519	7,264	5,909	4,680
9. Netherlands	2,585	2,974	3,067	3,119	3,521	4,530	5,294	5,936	5,934	4,107
10. UK	3,133	3,196	3,563	3,364	3,702	4,052	4,613	5,231	4,963	3,980
11. France	2,263	2,493	2,650	2,346	2,418	2,988	5,367	6,120	6,705	3,706
12. Thailand	1,872	2,031	2,434	2,992	3,549	4,557	4,461	4,489	3,893	3,364
13. Indonesia	2,167	2,442	2,622	2,909	3,547	4,019	3,840	4,319	3,150	3,224
14. Philippines	1,048	1,083	1,329	1,396	1,683	2,277	2,772	3,617	3,557	2,085
Sub-total	95,950	110,011	122,211	129,713	143,712	174,077	175,223	190,195	173,550	146,071
Ratio to Total Export Import (%)										
1. US	28.18	26.20	25.63	24.86	23.76	21.92	21.45	22.32	22.79	24.12
2. Japan	19.96	20.17	19.98	19.84	19.62	20.18	18.86	17.21	16.88	19.19
3. Hong Kong	4.89	6.38	6.87	7.72	8.39	9.27	9.25	10.05	10.08	8.10
4. China	3.32	4.17	4.83	5.36	5.50	5.32	5.17	4.85	4.65	4.80
5. Germany	4.85	4.95	4.90	4.76	4.50	4.42	3.97	3.83	4.29	4.50
6. Singapore	2.96	2.77	2.74	2.93	3.24	3.42	3.37	3.40	2.77	3.07
7. Korea	2.10	2.18	2.25	2.35	2.67	3.21	3.13	3.12	3.32	2.70
8. Malaysia	1.73	2.07	2.23	2.23	2.55	2.72	2.99	3.07	2.75	2.48
9. Netherlands	2.12	2.14	2.00	1.92	1.97	2.10	2.42	2.51	2.76	2.22
10. UK	2.57	2.30	2.32	2.07	2.07	1.88	2.11	2.21	2.31	2.21
11. France	1.86	1.79	1.73	1.45	1.36	1.39	2.46	2.59	3.11	1.97
12. Thailand	1.53	1.46	1.59	1.85	1.99	2.12	2.04	1.90	1.81	1.81
13. Indonesia	1.78	1.76	1.71	1.79	1.99	1.87	1.76	1.83	1.46	1.77
14. Philippines	0.86	0.78	0.87	0.86	0.94	1.06	1.27	1.53	1.65	1.09
Total	78.69	79.12	79.63	79.99	80.56	80.89	80.26	80.42	80.63	80.02

Sources: Direction of Trade Statistics Yearbook and Central Bank of China, Taipei 's Annual Reports, various publications.

Appendix 36: Philippines' Directions of Trade 1990-98 (Millions US dollar, otherwise stated)

Direction of International Trade	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Total Export and Import	20392	20891	24343	28972	34816	43838	52428	61583	59020	86799
1. US	5461	5570	6452	7892	9084	11028	12877	15969	16660	24044
2. Japan	3848	4110	4816	5846	8212	8699	10797	11606	10282	15962
3. Singapore	727	685	803	1356	2150	2549	2964	3792	3574	4879
4. Taiwan	1015	1035	1247	1370	1679	2004	2259	2977	3172	4498
5. Hong Kong	886	988	1185	1423	1764	2099	2228	2720	2626	4050
6. Korea	708	837	873	1118	1399	1810	2044	2656	2700	3377
7. Germany	929	972	1192	1200	1426	1628	2056	2240	1854	3317
8. UK	598	587	767	921	1028	1472	1416	1631	2084	3006
9. Netherlands	526	482	586	600	795	1123	1446	2173	2537	3363
10. Malaysia	399	421	515	516	653	888	1488	1587	2067	2375
11. Thailand	294	315	236	339	561	1195	1382	1647	1428	1991
Sub-total	15391	16002	18672	22581	27751	34495	40957	48993	48964	38281
Ratio to Total Export Import (%)										
1. US	26.78	26.66	26.50	27.24	26.09	25.16	24.56	25.93	28.23	27.70
2. Japan	18.87	19.67	19.78	20.18	20.71	19.84	20.59	18.85	17.39	18.39
3. Singapore	3.57	3.28	3.30	4.68	6.18	5.81	5.65	6.16	6.06	5.62
4. Taiwan	4.98	4.95	5.12	4.73	4.82	4.57	4.31	4.83	5.37	5.18
5. Hong Kong	4.34	4.73	4.87	4.91	5.07	4.79	4.25	4.42	4.45	4.87
6. Korea	3.47	4.01	3.59	3.86	4.02	4.13	3.90	4.31	4.57	3.89
7. Germany	4.56	4.85	4.90	4.14	4.10	3.71	3.92	3.64	3.14	3.82
8. UK	2.93	2.81	3.15	3.18	2.95	3.36	2.7	2.65	3.53	3.46
9. Netherlands	2.58	2.31	2.41	2.07	2.28	2.56	2.76	3.53	4.30	3.87
10. Malaysia	1.96	2.02	2.12	1.78	1.88	2.03	2.84	2.58	3.50	2.74
11. Thailand	1.44	1.51	0.97	1.17	1.61	2.73	2.64	2.67	2.42	2.29
Total	75.48	46.60	46.7	77.94	79.71	78.69	78.12	79.56	82.96	44.10

Sources: Direction of Trade Statistics Yearbook and Bangko Sentral ng Pilipinas' Annual Reports, various publications.

Appendix 37: Mongolia's Directions of Trade 1990-97 (Millions US dollar, otherwise stated)

Destination of International Trade	1993	1994	1995	1996	1997	Average
Total Export and Import	564	553	840	915	976	770
1. Russia	246	203	254	287	255	249
2. China	153	116	161	195	241	173
3. Japan	45	80	129	147	144	109
4. US	50	34	38	35	78	47
5. Germany	10	24	58	56	73	44
6. Kazakstan	0	22	58	34	31	29
7. Italy	17	20	26	36	18	23
8. UK	6	6	8	21	22	13
9. Singapore	0	0	16	24	22	12
10. Hong Kong	15	9	12	4	5	9
11. France	6	4	7	4	9	6
Sub-total	548	518	767	843	898	715
Ratio to Total Export Import (percent)						
1. Russia	43.62	36.71	30.24	31.37	26.13	33.61
2. China	27.13	20.98	19.17	21.31	24.69	22.65
3. Japan	7.98	14.47	15.36	16.07	14.75	13.72
4. US	8.87	6.15	4.52	3.83	7.99	6.27
5. Germany	1.77	4.34	6.90	6.12	7.48	5.32
6. Kazakstan	0.00	3.98	6.90	3.72	3.18	3.56
7. Italy	3.01	3.62	3.10	3.93	1.84	3.10
8. UK	1.06	1.08	0.95	2.30	2.25	1.53
9. Singapore	0.00	0.00	1.90	2.62	2.25	1.36
10. Hong Kong	2.66	1.63	1.43	0.44	0.51	1.33
11. France	1.06	0.72	0.83	0.44	0.92	0.80
Total	97.16	93.67	91.31	92.13	92.01	93.26

Sources: Direction of Trade Statistics Yearbook and Central Bank of Mongolia's Annual Reports, various publications.

Appendix 38: Korea's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	2.95	10.81	8.02	7.73	15.68	31.24	4.28	6.63	-4.89
2. Import, growth	15.03	17.00	0.79	2.33	22.63	31.95	12.28	-1.70	-36.37
3. Trade Balance	-0.97	-2.30	-0.56	0.67	-0.71	-0.91	-2.88	-0.81	12.83
4. Trade	51.37	50.09	48.98	46.82	47.90	51.86	52.84	58.98	69.35
5. Current Account	-0.79	-2.82	-1.25	0.29	-0.96	-1.74	-4.42	-1.71	12.64
6. Capital and Fin. Balance	1.02	2.17	2.09	0.79	2.56	3.43	4.48	1.14	7.70
7. FDI	-0.10	-0.10	-0.14	-0.22	-0.41	-0.36	-0.45	-0.41	0.12
8. Portfolio Investment	0.03	1.03	1.84	2.90	1.52	2.37	2.92	3.10	-0.62
9. Other Investment	1.22	1.35	0.52	-1.75	1.56	1.52	2.13	-1.42	-0.82
10. Overall BOP	0.22	-0.65	0.84	1.08	1.60	1.69	0.06	-0.57	20.35
11. International Reserves	5.87	4.65	5.45	5.86	6.38	6.69	6.20	4.28	16.22
(in billions US dollar)	14.82	13.73	17.15	20.26	25.67	32.71	32.24	20.41	52.04
Other Macro Indicators									
1. Nom. GDP, billions USD	253	295	315	346	403	489	520	476	321
2. Nom. Investment, incl. stocks	37.71	39.85	37.34	35.51	36.51	37.17	37.94	34.23	20.86
3. Capital Productivity	43.95	43.71	31.82	32.26	38.88	38.46	25.91	22.42	-4.02
4. Nominal Consumption	62.47	62.54	63.55	63.79	64.44	64.26	65.80	66.60	66.58
5. MPC	0.57	0.63	0.71	0.66	0.68	0.63	0.80	0.76	0.69
6. Real GDP, growth	9.51	9.23	5.44	5.49	8.25	8.92	6.75	5.01	-5.84
7. Real Investment, growth	68.10	15.09	-0.93	2.94	14.41	11.39	8.72	-7.49	-38.59
8. Real Consumption, growth	67.68	7.87	5.57	5.43	7.13	8.19	7.24	3.19	-8.19
9. Index GDP Deflator (1995=100)	68	75	81	87	93	100	104	107	113
Changes	9.46	10.86	7.63	7.06	7.66	7.12	3.89	3.15	5.32
10. Average Inflation	9.40	9.18	4.46	5.80	5.56	4.69	4.93	6.57	4.00
12. Broad Money, Nom. growth	17.17	21.89	14.94	16.58	18.68	15.59	15.83	14.14	27.03
Real growth	7.05	9.94	6.79	8.89	10.23	7.91	11.49	10.66	20.61
13. Velocity	2.60	2.59	2.55	2.47	2.43	2.45	2.35	2.23	1.74
14. Gov. Savings	8.59	6.75	7.35	7.71	8.63	9.66	10.21	10.56	8.05
15. Gov. Investment	4.50	4.99	5.33	5.05	4.93	4.89	5.37	5.72	6.21
16. Gov. S-I Gap	4.09	1.76	2.02	2.66	3.70	4.77	4.84	4.85	1.84
17. Overall Gov. Budget	0.42	-0.79	-0.28	0.08	0.54	0.33	0.26	-1.54	-4.17
18. Private Savings	29.01	30.65	29.14	28.52	26.93	25.70	23.45	22.75	24.99
19. Private Investment	33.21	34.86	32.00	30.47	31.58	32.28	32.57	28.52	14.65
20. Private S-I Gap	-4.20	-4.22	-2.86	-1.95	-4.65	-6.58	-9.12	-5.76	10.34
21. Total S-I Gap	-0.11	-2.46	-0.84	0.71	-0.94	-1.81	-4.28	-0.92	12.17

Sources: SEACEN Financial Statistics and Bank of Korea's Annual Reports, various publications.

Appendix 39: Thailand's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	14.89	23.88	13.66	13.39	22.16	24.74	-1.88	5.91	-8.50
2. Import, growth	29.54	15.75	5.94	12.36	18.44	31.76	0.61	-13.44	-33.89
3. Trade Balance	-11.68	-9.86	-7.25	-6.99	-6.25	-8.92	-9.08	-2.43	10.44
4. Trade	65.10	67.36	64.85	65.12	67.83	74.89	69.06	77.31	80.10
5. Current Account	-8.53	-7.71	-5.65	-5.08	-5.60	-8.06	-8.09	-1.96	12.28
6. Capital and Fin. Balance	11.35	11.50	8.50	8.39	8.42	13.01	10.73	-6.17	-8.54
7. Official Inflows	-0.10	-0.10	-0.14	-0.22	-0.41	-0.36	-0.45	-0.41	0.12
8. Private Bank Inflows	1.87	-0.26	1.73	2.87	9.64	6.68	2.76	-5.24	-11.65
9. Private Non Bank Inflows	10.93	10.72	6.65	5.36	-1.32	5.68	7.26	-1.00	-1.91
a. FDI	2.80	1.88	1.77	1.15	0.62	0.69	0.80	2.18	4.02
b. Other long-term inflows	2.48	2.07	1.36	-0.37	-0.49	1.69	2.92	0.21	-0.45
c. Portfolio investment	0.53	0.15	0.50	3.87	0.76	1.95	1.92	2.88	0.51
d. Short-term Inflows	5.12	6.62	3.01	0.72	-2.22	1.35	1.62	-6.27	-5.99
10. Overall BOP	2.82	3.79	2.85	3.30	2.83	4.95	2.64	-8.14	3.73
11. International Reserves	16.72	18.75	19.00	20.32	20.97	22.02	21.34	18.35	25.36
(in billions US dollar)	14.27	18.42	21.18	25.44	30.28	37.03	38.72	28.24	29.54
Other Macro Indicators									
1. Nom. GDP, billions USD	85	98	111	125	144	168	181	154	116
2. Nom, Investment, icl. stocks	41.36	42.84	39.96	39.94	40.27	41.61	41.73	34.99	23.80
3. Capital Productivity	36.15	30.09	28.67	26.80	31.50	32.02	21.33	13.55	-0.84
4. Nominal Consumption	65.97	64.20	64.67	64.61	64.05	63.34	64.62	65.14	na
5. MPC	0.71	0.52	0.68	0.64	0.60	0.59	0.78	0.76	na
6. Real GDP, growth	11.17	8.56	8.08	8.71	8.62	8.83	5.52	-0.43	-8.00
7. Real Investment icl. stocks, growth	31.26	13.32	5.23	8.55	11.07	12.26	5.38	-19.00	-40.55
8. Real Consumption, growth	12.04	5.53	8.38	7.99	8.02	7.13	6.74	0.08	-12.90
9. Index GDP Deflator (1995=100)	78.59	83.11	86.84	89.47	94.33	100.00	104.03	109.68	118.98
Changes	5.77	5.75	4.49	3.02	5.44	6.01	4.03	5.43	8.48
10. Average Inflation	6.65	4.68	2.98	4.61	4.58	7.52	4.78	7.62	4.32
12. Broad Money, Nom. growth	26.68	19.83	15.58	18.38	12.85	17.01	12.57	16.44	9.54
Real growth	19.77	13.32	10.61	14.91	7.03	10.38	8.20	10.45	0.98
13. Velocity	1.43	1.37	1.34	1.26	1.28	1.27	1.23	1.11	1.01
14. Gov. Savings	11.80	12.64	10.84	11.04	12.12	12.85	13.06	10.68	9.70
15. Gov. Investment	6.14	7.22	8.12	7.88	8.72	8.90	10.24	11.53	10.10
16. Gov. S-I Gap	5.66	5.42	2.72	3.17	3.40	3.95	2.82	-0.86	-0.40
17. Overall Gov. Budget	5.74	4.93	2.90	2.11	3.07	3.48	1.03	-0.33	-2.67
18. Private Savings	21.22	22.03	22.94	23.07	22.66	22.05	20.10	21.40	25.20
19. Private Investment	35.22	35.62	31.84	32.06	31.55	32.71	31.50	23.46	12.50
20. Private S-I Gap	-14.00	-13.59	-8.91	-8.99	-8.89	-10.66	-11.40	-2.05	12.70
21. Total S-I Gap	-8.34	-8.17	-6.19	-5.83	-5.49	-6.70	-8.58	-2.91	12.30

Sources: SEACEN Financial Statistics and Bank of Thailand's Annual Reports, various publications.

Appendix 40: Nepal's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	24.08	32.48	28.01	3.73	-0.54	-3.27	3.66	15.13	9.72
2. Import, growth	11.17	4.66	12.48	12.11	24.90	14.13	11.33	6.08	-21.30
3. Trade Balance	-12.98	-12.64	-12.54	-14.64	-18.73	-21.52	-23.73	-23.07	-16.06
4. Trade	24.21	28.30	31.86	34.39	36.41	37.58	39.81	40.55	35.98
5. Current Account	-7.71	-7.25	-6.25	-4.85	-4.73	-7.12	-7.19	-5.49	-5.62
6. Capital and Fin. Balance	10.74	10.04	9.63	8.66	6.24	7.28	7.99	7.96	4.89
7. Official Inflows	5.45	5.05	3.99	4.37	4.67	3.46	2.98	3.27	3.15
8. Private FDI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. Other investment	5.29	4.99	5.64	4.29	1.58	3.82	5.01	4.69	1.74
10. Overall BOP	3.03	2.79	3.39	3.80	1.51	0.16	0.81	2.47	-0.73
11. International Reserves	8.10	12.44	12.60	17.10	16.53	14.10	12.45	13.56	16.41
(in billions US dollar)	0.309	0.450	0.473	0.652	0.700	0.636	0.581	0.671	0.781
Other Macro Indicators									
1. Nom. GDP, billions USD	3.81	3.62	3.76	3.81	4.24	4.51	4.67	4.95	4.76
2. Nom, Investment, icl. stocks	19.73	21.01	22.23	22.78	23.88	26.33	26.14	na	na
3. Capital Productivity	70.44	81.26	71.61	58.96	47.73	40.28	44.36	na	na
4. Nominal Consumption	91.22	89.73	87.70	85.83	85.25	85.71	86.71	na	na
5. MPC	0.96	0.82	0.77	0.74	0.81	0.90	0.94	na	na
6. Real GDP, growth	5.52	5.20	3.98	6.07	5.75	4.41	5.18	3.66	2.86
7. Real Investment icl. stocks, growth	na	na	na	na	na	na	na	na	na
8. Real Consumption, growth	na	na	na	na	na	na	na	na	na
9. Index GDP Deflator (1995=100)	61.25	70.21	80.31	87.45	93.34	100.00	107.55	112.48	119.67
Changes	10.06	14.62	14.39	8.90	6.73	7.13	7.55	4.59	6.39
10. Average Inflation	7.55	21.62	8.93	8.44	9.03	6.86	9.97	0.62	19.25
12. Broad Money, Nom. growth	18.49	22.47	21.91	26.12	18.06	13.51	12.19	15.76	24.01
Real growth	7.65	6.84	6.58	15.82	10.61	5.96	4.32	10.69	16.57
13. Velocity	3.36	3.31	3.23	2.96	2.83	2.78	2.81	2.63	2.32
14. Gov. Savings	2.54	2.54	2.27	2.84	3.03	2.60	2.43	2.12	1.90
15. Gov. Investment	6.25	5.50	6.21	6.75	6.31	6.12	5.99	6.07	5.86
16. Gov. S-I Gap	-3.71	-2.96	-3.94	-3.91	-3.28	-3.52	-3.56	-3.95	-3.95
17. Overall Gov. Budget	-3.47	-3.03	-4.29	-3.82	-2.64	-3.09	-3.03	-3.23	-3.18
18. Private Savings	8.24	9.79	12.21	13.53	14.11	13.85	12.77	na	na
19. Private Investment	13.48	15.51	16.02	16.03	17.57	20.21	20.15	na	na
20. Private S-I Gap	-5.23	-5.72	-3.81	-2.50	-3.46	-6.36	-7.38	na	na
21. Total S-I Gap	-8.95	-8.67	-7.75	-6.40	-6.74	-9.88	-10.94	na	na

Sources: SEACEN Financial Statistics and Nepal Rastra Bank's Annual Reports, various publications.

Appendix 41: Singapore's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	19.65	12.17	8.53	16.97	25.77	20.97	6.38	-0.21	-12.22
2. Import, growth	22.38	9.11	11.30	17.83	19.83	21.66	5.37	0.68	-23.21
3. Trade Balance	-4.36	-0.25	-3.67	-4.67	1.91	1.15	2.22	1.17	17.39
4. Total Trade	296	281	272	271	275	277	249	261	244
5. Net Service Balance	11.13	10.75	13.41	12.47	12.91	14.16	10.24	11.57	0.39
6. Current Account	8.34	11.16	11.90	7.21	16.09	16.95	14.48	15.68	20.87
7. Capital and Fin. Balance	10.48	5.29	3.53	-2.20	-12.60	-5.64	-3.23	-4.20	-21.17
8. Capital Account	-0.06	-0.08	-0.08	-0.12	-0.12	-0.08	-0.14	-0.18	-0.27
9. FDI	9.46	9.98	1.79	4.34	5.61	1.09	1.61	5.20	4.87
10. Portfolio Investment	-2.77	-2.07	5.01	-8.51	-10.91	-8.64	-10.26	-11.96	-8.87
11. Other Investment	3.86	-2.54	-3.19	2.09	-7.18	2.00	5.57	2.74	-16.91
12. Overall BOP	18.82	16.45	15.44	5.02	3.49	11.31	11.25	11.48	-0.30
13. International Reserves	71.48	73.88	81.28	82.56	78.70	80.64	76.28	84.02	88.21
(in billions US dollar)	26.77	32.30	40.39	48.19	55.76	68.67	76.42	80.56	74.44
Other Macro Indicators									
1. Nom. GDP, billions USD	37.45	43.72	49.69	58.37	70.85	85.16	100.18	95.88	84.39
2. Nom, Investment, icl. stocks	35.87	34.09	35.92	37.38	32.99	33.86	33.82	38.37	33.53
3. Capital Productivity	35.05	29.70	18.60	37.95	38.93	30.56	43.03	2.01	-2.36
4. Nominal Consumption	55.31	54.08	54.13	53.98	51.84	49.53	46.25	49.24	50.07
5. MPC	0.45	0.43	0.55	0.53	0.37	0.30	0.27	4.33	-0.56
6. Real GDP, growth	8.98	7.28	6.27	12.60	11.18	8.45	7.52	7.99	1.49
7. Real Investment icl. stocks, growth	17.97	2.98	9.89	17.30	1.27	14.41	17.26	14.05	-12.67
8. Real Consumption, growth	8.19	6.44	4.80	12.47	5.72	6.18	8.43	6.51	2.68
9. Index GDP Deflator (1995=100)	87.04	90.28	91.03	94.22	97.23	100.00	108.85	101.58	99.31
Changes	4.96	3.72	0.84	3.50	3.20	2.85	8.85	-6.68	-2.24
10. Average Inflation	3.72	2.96	1.74	2.62	2.85	0.86	1.99	2.04	-1.55
12. Broad Money, Nom. growth	19.98	12.45	8.90	8.45	14.43	8.50	9.79	10.27	30.25
Real growth	14.31	8.42	7.99	4.79	10.89	5.49	0.87	18.15	33.23
13. Velocity	1.10	1.09	1.07	1.15	1.15	1.18	1.26	1.15	0.88
14. Gov. Savings	16.62	15.00	15.17	13.31	13.05	12.89	13.57	18.17	17.55
15. Gov. Investment	6.22	4.67	4.69	3.62	4.08	3.87	4.90	7.52	7.47
16. Gov. S-I Gap	10.40	10.33	10.48	9.69	8.96	9.02	8.67	10.65	10.08
17. Overall Gov. Budget	2.68	4.66	6.10	7.39	8.47	7.64	6.27	3.34	2.42
18. Private Savings	27.59	30.26	32.66	31.29	36.04	37.92	34.73	35.88	36.85
19. Private Investment	29.65	29.43	31.23	33.77	28.91	29.99	28.92	30.85	26.05
20. Private S-I Gap	-2.07	0.83	1.42	-2.48	7.13	7.93	5.81	5.03	10.79
21. Total S-I Gap	8.34	11.16	11.90	7.21	16.09	16.95	14.48	15.68	20.87

Sources: SEACEN Financial Statistics and Monetary Authority of Singapore's Annual Reports, various publications.

Appendix 42: Malaysia's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	17.60	16.70	18.42	15.75	24.53	25.94	6.02	0.27	-6.94
2. Import, growth	30.20	25.35	8.61	14.54	30.27	30.61	1.04	0.16	-25.92
3. Trade Balance	0.46	-4.78	1.49	2.32	-1.05	-4.28	-0.10	-0.02	20.97
4. Total Trade	137.22	147.55	138.08	144.45	162.84	173.47	158.04	160.45	184.79
5. Current Account	-2.15	-8.80	-3.78	-4.80	-7.76	-9.90	-4.50	-5.75	13.20
6. Capital and Fin. Balance	4.17	11.68	15.00	16.82	1.67	8.75	9.80	2.21	-3.50
7. Official Inflows	-2.45	-0.50	-1.94	0.59	0.45	2.81	0.30	1.69	0.77
8. Private FDI	5.45	8.31	8.89	7.80	5.67	4.79	5.12	5.22	3.14
9. Private Short-term Inflows	1.17	3.88	8.05	8.43	-4.46	1.16	4.38	-4.69	-7.40
10. Overall BOP	2.03	2.89	11.22	12.03	-6.09	-1.15	5.30	-3.53	9.70
11. International Reserves	23.43	23.24	31.07	44.12	36.78	28.76	27.94	24.37	55.48
(in billions US dollar)	10.02	11.19	18.12	28.31	26.66	25.11	27.70	23.85	39.40
Other Macro Indicators									
1. Nom. GDP, billions USD	42.78	48.14	58.31	64.18	72.51	87.31	99.17	97.88	71.02
2. Nom. Investment, incl. stocks	31.25	37.25	35.08	37.81	40.42	43.49	41.59	42.47	25.83
3. Capital Productivity	36.65	33.83	31.01	26.69	32.60	29.86	29.71	22.11	4.66
4. Nominal Consumption	66.65	66.49	63.54	62.30	61.23	60.52	57.39	56.14	51.86
5. MPC	0.77	0.65	0.39	0.51	0.54	0.56	0.35	0.44	-2.99
6. Real GDP, growth	9.73	8.60	7.80	8.35	9.30	9.36	8.60	7.70	-6.70
7. Real Investment incl. stocks, growth	20.94	29.67	4.17	16.28	20.30	20.42	5.88	10.24	-38.43
8. Real Consumption, growth	11.25	10.17	3.22	6.01	9.91	8.79	4.91	4.86	-10.30
9. Index GDP Deflator (1995=100)	80.22	84.52	87.97	90.31	95.16	100.00	105.06	107.66	116.79
Changes	2.92	5.36	4.09	2.65	5.37	5.09	5.06	2.47	8.49
10. Average Inflation	3.36	4.21	4.90	3.40	5.34	3.25	3.33	2.86	5.29
12. Broad Money, Nom. growth	12.78	14.53	19.14	22.12	14.71	24.01	19.78	22.67	1.46
Real growth	9.58	8.70	14.46	18.96	8.86	18.01	14.01	19.71	-6.48
13. Velocity	1.38	1.38	1.30	1.18	1.19	1.10	1.05	0.94	0.94
14. Gov. Savings	18.67	17.18	16.42	16.55	17.52	14.98	15.92	18.27	15.19
15. Gov. Investment	11.07	12.88	14.12	14.38	13.05	12.73	11.21	11.46	11.39
16. Gov. S-I Gap	7.60	4.30	2.30	2.17	4.47	2.26	4.71	6.81	3.80
17. Overall Gov. Budget	-2.97	-1.99	-0.84	0.21	2.32	0.85	0.73	2.41	-1.79
18. Private Savings	10.43	11.27	14.87	16.46	15.13	18.61	20.78	19.06	23.59
19. Private Investment	20.18	24.36	20.95	23.43	27.37	30.76	30.38	31.01	14.44
20. Private S-I Gap	-9.75	-13.09	-6.08	-6.96	-12.23	-12.16	-9.60	-11.95	9.14
21. Total S-I Gap	-2.15	-8.80	-3.78	-4.80	-7.76	-9.90	-4.89	-5.14	12.94

Sources: SEACEN Financial Statistics and Bank Negara Malaysia's Annual Reports, various publications.

Appendix 43: Sri Lanka's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	22.73	3.92	23.81	16.20	12.21	18.65	7.78	13.12	2.17
2. Import, growth	20.82	13.84	14.45	14.33	19.02	11.41	2.56	7.45	1.03
3. Trade Balance	-9.67	-11.93	-10.75	-11.08	-13.30	-11.54	-9.67	-8.03	-7.45
4. Trade	57.29	56.10	61.47	66.40	68.06	69.98	68.72	69.54	67.84
5. Current Account	-3.23	-5.37	-4.45	-3.75	-6.43	-4.88	-4.19	-2.02	-1.46
6. Capital and Fin. Balance	5.88	7.30	5.51	8.23	8.55	4.65	2.47	4.70	2.43
7. Official Inflows	5.10	5.94	2.40	2.52	2.10	3.48	1.86	1.58	1.26
8. Private Inflows	0.79	1.36	3.12	5.71	6.45	1.17	0.61	3.11	1.17
a. FDI	0.40	0.71	1.25	1.83	1.35	0.41	0.86	2.85	1.23
b. Other long-term inflows	-0.57	-0.27	0.27	1.80	2.64	0.57	0.01	0.31	0.04
c. Portfolio investment	0.12	0.36	0.26	0.66	0.24	-0.02	0.05	0.09	-0.15
d. Short-term Inflows	0.83	0.57	1.33	1.43	2.22	0.21	-0.32	-0.13	0.05
9. Overall BOP	2.65	1.93	1.06	4.48	2.12	-0.23	-1.71	2.68	0.97
10. International Reserves	5.10	10.45	9.48	15.31	16.55	15.72	13.58	13.37	12.54
(in billions US dollar)	0.41	0.94	0.92	1.58	1.94	2.05	1.89	2.02	1.97
Other Macro Indicators									
1. Nom. GDP, billions USD	8.03	9.00	9.70	10.34	11.72	13.03	13.90	15.09	15.71
2. Nom. Investment, incl. stocks	22.21	22.87	24.28	25.56	27.03	25.73	24.25	24.39	25.37
3. Capital Productivity	97.81	59.37	51.28	58.18	50.81	51.62	53.88	56.26	48.27
4. Nominal Consumption	85.68	87.24	84.99	83.99	84.78	84.71	84.68	82.68	81.09
5. MPC	0.78	0.97	0.69	0.78	0.90	0.84	0.84	0.70	0.70
6. Real GDP, growth	6.17	4.61	4.28	6.95	5.63	5.45	3.76	6.30	4.74
7. Real Investment incl. stocks, growth	na	na	na	na	na	na	na	na	na
8. Real Consumption, growth	na	na	na	na	na	na	na	na	na
9. Index GDP Deflator (1995=100)	62.62	69.27	75.87	83.33	91.45	100.00	110.86	120.87	131.51
Changes	20.32	10.61	9.53	9.84	9.74	9.35	10.86	9.03	8.80
10. Average Inflation	19.62	9.01	13.82	10.32	4.21	11.51	16.80	10.74	3.72
12. Broad Money, Nom. growth	19.08	21.49	17.38	23.37	19.69	19.23	10.79	13.85	9.68
Real growth	-1.03	9.83	7.17	12.32	9.07	9.04	-0.06	4.41	0.82
13. Velocity	3.54	3.37	3.28	3.12	3.02	2.92	3.03	3.09	3.21
14. Gov. Savings	-1.18	-2.03	-0.91	-0.79	-2.94	-2.68	-3.76	-2.21	-2.43
15. Gov. Investment	3.94	4.27	3.22	4.15	3.05	3.54	3.06	3.36	3.50
16. Gov. S-I Gap	-5.12	-6.30	-4.12	-4.95	-5.99	-6.22	-6.82	-5.58	-5.92
17. Overall Gov. Budget	-9.90	-11.64	-7.33	-8.43	-9.97	-10.07	-9.42	-7.87	-9.18
18. Private Savings	15.51	14.79	15.92	16.80	18.17	17.97	19.08	19.54	21.34
19. Private Investment	18.27	18.60	21.06	21.40	23.98	22.19	21.19	21.02	21.87
20. Private S-I Gap	-2.76	-3.81	-5.14	-4.60	-5.81	-4.22	-2.11	-1.48	-0.53
21. Total S-I Gap	-7.88	-10.11	-9.26	-9.55	-11.81	-10.44	-8.93	-7.06	-6.45

Sources: SEACEN Financial Statistics and Central Bank of Sri Lanka's Annual Reports, various publications.

Appendix 44: Indonesia's Macroeconomic Indicators 1990-98 (As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	15.87	13.50	16.56	8.41	8.78	13.39	9.68	7.29	-8.60
2. Import, growth	33.48	18.46	5.45	3.84	12.90	27.04	5.66	-2.88	-34.43
3. Trade Balance	3.62	2.81	5.22	5.38	4.56	2.37	3.03	5.46	21.77
4. Net Service Balance	-8.09	-7.88	-7.92	-6.66	-6.14	-6.40	-6.05	-7.01	-14.65
5. Total Trade	44.76	47.17	47.84	41.23	40.72	42.57	40.78	44.25	77.09
6. Current Account	-2.82	-3.65	-2.17	-1.33	-1.58	-3.18	-3.37	-2.27	4.02
7. Capital and Fin. Balance	4.47	5.00	5.05	3.77	2.27	5.24	4.83	1.18	-4.64
8. Official Inflows	0.60	1.22	0.87	0.47	0.17	0.17	-0.23	1.34	10.09
9. Private FDI	1.03	1.27	1.39	1.27	1.19	2.15	2.72	2.17	-0.36
10. Other Private Inflows	2.85	2.51	2.80	2.04	0.90	2.92	2.34	-2.33	-14.37
11. Overall BOP	1.66	1.35	2.88	2.44	0.69	2.06	1.46	-1.09	-0.62
12. International Reserves	8.03	8.79	8.90	7.82	7.46	7.32	8.71	8.09	23.80
(in billions US dollar)	8.52	10.25	11.39	12.35	13.20	14.79	19.81	17.40	23.52
Other Macro Indicators									
1. Nom. GDP, billions USD	106.14	116.62	128.03	158.01	176.89	202.13	227.40	215.00	98.82
2. Nom. Investment, icl. stocks	36.15	35.50	35.87	29.48	27.57	31.93	30.80	31.26	18.53
3. Capital Productivity	40.18	39.45	34.79	71.89	49.77	49.82	47.63	47.49	198.56
4. Nominal Consumption	63.34	64.11	61.80	67.54	66.07	69.41	69.82	69.01	73.79
5. MPC	0.68	0.69	0.46	0.89	0.57	0.87	0.72	0.64	0.82
6. Real GDP, growth	7.24	6.95	6.46	6.50	7.54	8.22	7.82	4.70	-13.68
7. Real Investment icl. stocks, growth	20.18	2.28	5.55	8.15	18.97	10.88	3.31	11.04	-45.69
8. Real Consumption, growth	8.79	7.26	3.31	4.92	4.38	14.03	9.92	4.88	-4.11
9. Index GDP Deflator (1995=100)	60.73	66.03	70.87	84.44	91.01	100.00	108.69	121.91	223.43
Changes	9.09	8.73	7.33	19.15	7.78	9.88	8.69	12.16	83.28
10. Average Inflation	9.92	9.98	5.04	10.18	9.64	8.98	6.04	10.31	77.63
12. Broad Money, Nom. growth	44.16	17.05	20.18	21.96	20.19	27.58	29.64	23.22	62.35
Real growth	32.14	7.65	11.98	2.36	11.51	16.10	19.28	9.85	-11.42
13. Velocity	2.31	2.30	2.18	2.27	2.19	2.04	1.85	1.76	1.71
14. Gov. Savings	10.89	10.70	10.82	9.58	9.30	8.44	8.40	8.25	5.66
15. Gov. Investment	8.97	9.09	2.43	1.91	7.22	6.27	5.91	6.82	4.84
16. Gov. S-I Gap	1.92	1.61	8.39	7.67	2.08	2.17	2.49	1.43	0.82
17. Overall Gov. Budget	1.66	1.38	-0.29	-0.23	1.93	1.91	2.29	1.29	0.73
18. Private Savings	22.45	21.15	22.88	18.57	16.69	20.31	19.03	20.74	16.89
19. Private Investment	27.18	26.41	33.44	27.57	20.35	25.66	24.88	24.45	13.69
20. Private S-I Gap	-4.73	-5.26	-10.56	-9.00	-3.66	-5.35	-5.86	-3.71	3.20
21. Total S-I Gap	-2.82	-3.65	-2.17	-1.33	-1.58	-3.18	-3.37	-2.27	4.02

Sources: SEACEN Financial Statistics and Bank Indonesia's Annual Reports, various publications.

Appendix 45: Taiwan's Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	1.52	13.03	6.88	4.49	9.37	19.95	3.82	5.42	-9.49
2. Import, growth	4.62	15.04	13.59	7.18	10.29	21.16	-0.09	9.58	-7.11
3. Trade Balance	9.25	8.74	6.00	5.14	4.92	5.09	6.45	5.10	4.03
4. Total trade	74.63	75.89	70.50	71.02	72.02	80.39	78.34	80.84	80.25
5. Current Account	6.82	6.95	4.03	3.16	2.70	2.10	4.05	2.74	1.43
6. Capital and Fin. Balance	-9.56	-1.49	-3.44	-2.23	-0.72	-3.40	-3.47	-2.99	0.62
7. Private FDI	-2.44	-0.44	-0.51	-0.76	-0.52	-0.55	-0.70	-1.06	-1.38
8. Portfolio Investment	-0.63	0.03	0.21	0.48	0.38	0.19	-0.43	-2.92	-1.10
9. Other Investment	-6.39	-0.83	-2.95	-1.80	-0.43	-2.79	-2.06	1.23	3.32
10. Overall BOP	-2.74	5.46	0.59	0.94	1.97	-1.29	0.58	-0.24	2.04
11. International Reserves	48.74	49.23	41.63	40.11	40.77	36.86	34.37	31.13	36.37
(in billions US dollar)	78.07	88.33	88.31	89.30	98.27	95.91	93.59	88.19	95.08
Other Macro Indicators									
1. Nom. GDP, billions USD	160.16	179.41	212.12	222.63	241.02	260.22	272.34	283.28	261.45
2. Nom. Investment, icl. stocks	23.08	23.29	24.90	25.16	23.87	23.65	21.24	22.03	22.37
3. Capital Productivity	37.04	44.95	39.65	36.32	32.98	31.63	36.90	36.46	31.48
4. Nominal Consumption	71.94	72.18	73.00	72.95	74.24	74.36	74.90	75.22	75.63
5. MPC	1.03	0.74	0.81	0.72	0.89	0.76	0.81	0.79	0.81
6. Real GDP, growth	5.39	7.55	6.76	6.32	6.54	6.03	5.67	6.77	4.83
7. Real Investment icl. stocks, growth	4.78	11.05	16.34	7.98	3.42	4.20	0.82	13.86	5.97
8. Real Consumption, growth	9.07	7.34	7.81	6.40	6.42	4.63	6.02	7.32	6.30
9. Index GDP Deflator (1995=100)	86.18	89.50	93.01	96.28	98.10	100.00	102.68	104.57	107.31
Changes	3.75	3.85	3.93	3.52	1.89	1.94	2.68	1.84	2.62
10. Average Inflation	4.12	3.63	4.46	2.94	4.64	3.14	3.07	0.85	2.88
12. Broad Money, Nom. growth	10.96	19.37	19.06	15.39	15.07	9.42	9.13	8.02	8.56
Real growth	6.95	14.95	14.56	11.47	12.94	7.33	6.29	6.07	5.79
13. Velocity	0.69	0.65	0.61	0.58	0.54	0.54	0.54	0.54	0.53
14. Gov. Savings	4.86	0.56	-1.81	2.17	3.75	4.22	3.23	2.78	4.18
15. Gov. Investment	11.04	11.50	11.58	11.61	10.97	10.64	9.47	8.62	8.32
16. Gov. S-I Gap	-6.18	-10.94	-13.39	-9.44	-7.21	-6.41	-6.24	-5.84	-4.14
17. Overall Gov. Budget	-4.58	-6.62	-4.76	-2.54	-2.00	-2.91	-2.69	na	na
18. Private Savings	25.18	29.56	30.65	26.07	22.68	21.38	21.84	21.92	20.10
19. Private Investment	12.05	11.79	13.32	13.55	12.90	13.01	11.76	13.41	14.05
20. Private S-I Gap	13.14	17.77	17.33	12.52	9.77	8.37	10.08	8.52	6.05
21. Total S-I Gap	6.96	6.83	3.93	3.08	2.56	1.96	3.84	2.68	1.91

Sources: SEACEN Financial Statistics and Central Bank of China Taipei's Annual Reports, various publications.

Appendix 46: Philippines' Macroeconomic Indicators 1990-98
As percentage of GDP, otherwise stated (percent)

Macroeconomic Indicators	1990	1991	1992	1993	1994	1995	1996	1997	1998
Balance of Payment:									
1. Export, growth	4.67	7.99	11.13	15.79	18.53	29.40	17.75	22.81	16.92
2. Import, growth	17.15	-1.27	20.48	21.20	21.23	23.71	20.82	14.02	-18.79
3. Trade Balance	-9.07	-7.07	-8.86	-11.44	-12.25	-12.07	-13.69	-13.54	-0.04
4. Total trade	46.02	46.00	45.95	53.29	54.33	59.14	63.20	74.95	90.49
5. Net Service Balance	1.67	3.34	5.70	4.61	6.18	6.43	8.21	6.93	1.75
6. Current Account	-5.80	-1.90	-1.60	-5.50	-4.60	-4.40	-4.80	-6.30	2.40
7. FDI	1.19	1.16	1.27	1.59	2.01	1.84	1.62	1.35	2.44
7. Capital and Fin. Balance	4.00	4.13	3.49	5.19	7.09	4.58	13.4	8.02	0.73
8. Other Long term Inflows	1.52	1.84	1.19	4.52	2.05	1.72	3.43	5.87	4.20
9. Portfolio investment	-0.11	0.28	0.12	-0.10	0.42	0.33	2.63	-0.43	0.12
10. Short-term Inflows	0.04	0.77	1.25	-0.27	1.56	-0.08	0.65	0.60	-2.33
11. Overall BOP	-0.20	4.60	2.80	-0.31	2.81	0.85	4.96	4.09	2.08
12. International Reserves	4.63	9.97	10.08	10.89	11.11	10.47	14.18	10.67	16.57
(in billions US dollar)	2.05	4.53	5.34	5.92	7.12	7.76	11.75	8.77	10.81
Other Macro Indicators									
1. Nom. GDP, billions USD	44.07	45.65	53.89	55.67	65.73	76.17	86.26	85.61	68.32
2. Nom, Investment, incl. stocks	24.15	20.22	21.34	23.98	24.06	22.45	24.02	24.86	20.29
3. Capital Productivity	58.35	67.68	35.90	34.76	53.63	49.78	50.99	41.43	45.42
4. Nominal Consumption	81.31	83.35	85.07	86.24	85.15	85.47	85.40	85.98	87.55
5. MPC	0.91	0.96	1.06	0.99	0.78	0.88	0.85	0.91	1.03
6. Real GDP, growth (1985=100)	3.04	-0.58	0.34	2.12	4.39	4.69	5.85	5.15	-0.54
7. Real Investment incl. Stocks, growth	15.83	-17.29	7.83	7.87	8.65	3.50	12.46	11.73	-16.44
8. Real Consumption, growth	5.51	1.83	2.87	3.32	3.94	3.98	4.58	4.96	2.92
9. Index GDP Deflator (1985=100)	149.47	174.18	187.99	200.84	220.90	237.58	253.78	271.19	300.32
Changes	12.97	16.53	7.93	6.83	9.99	7.55	7.66	6.02	10.74
10. Average Inflation (1994=100)	13.20	18.50	8.60	7.00	8.30	8.00	9.10	5.90	9.80
Year-end Inflation	14.04	13.31	7.51	7.66	6.17	10.35	7.14	7.25	10.40
12. Broad Money, Nom. growth	18.41	15.72	10.99	24.57	26.76	25.24	25.83	20.48	7.36
Real growth	4.81	-0.67	2.82	16.61	15.24	16.45	7.59	13.91	-2.51
13. Velocity	3.62	3.63	3.54	3.10	2.81	2.52	2.48	2.30	2.34
14. Gov. Savings	2.57	4.46	6.32	5.26	6.00	6.21	6.51	6.07	4.61
15. Gov. Investment	8.68	6.61	7.72	9.59	8.73	7.48	6.36	8.52	7.41
16. Gov. S-I Gap	-6.11	-2.14	-1.40	-4.21	-2.57	-1.39	-1.48	2.90	-0.07
17. Overall Gov. Budget	-3.45	-2.11	-1.18	-1.48	0.96	0.58	0.29	0.06	-1.87
18. Private Savings	17.08	14.52	11.83	11.95	13.31	12.72	12.76	14.73	14.03
19. Private Investment	15.47	13.61	13.62	14.39	15.34	14.97	17.65	16.34	12.88
20. Private S-I Gap	1.61	0.91	-1.79	-2.44	-2.03	-2.25	-4.89	-1.61	1.15
21. Total S-I Gap	-4.50	*1.23	-3.19	-6.77	-4.76	-3.51	-4.74	-4.05	-1.66

Sources: SEACEN Financial Statistics and Bangko Sentral ng Pilipinas' Annual Reports, various publications.