

Staff Papers No. 63

**SUSTAINABILITY OF THE
CURRENT ACCOUNT DEFICITS**

**Lim Choon-Seng, Vincent
Delano Villanueva**



The South East Asian Central Banks (SEACEN)
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FOREWORD

Policy makers are concerned about current account deficits as they are often and rightly blamed for many countries' economic problems. As such, it is hardly surprising that many analysts attributed the Mexican Crisis in 1994 and the recent Thai currency crisis to unsustainable current account deficits. This paper attempts to analyse sustainability of the current account deficits using an intertemporal framework. Optimal current accounts balances are derived based on the permanent income theory of consumption and savings. The paper also aims to rationalise appropriate policy options to deal with persistent current account deficits.

This in-house research project was undertaken by Mr. Vincent Lim Choon Seng, Economist, and Dr Delano Villanueva, former Deputy of Research of The SEACEN Centre. They are indebted to Dr. John C. Mcdermott for sharing his technical expertise and Ms. Nurulhuda Mohd Hussain, Research Associate, for efficient research assistance. Mr. Lim and Dr. Villanueva would also like to thank, in particular, Dr. Subarjo Joyosumarto, Executive Director and Mrs. Kanaengnid T. Quah, Acting Director (Research) for their support and guidance.

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Dr. Subarjo Joyosumarto
Executive Director
November 2000

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SUSTAINABILITY OF THE CURRENT ACCOUNT DEFICITS

Abstract

This paper examines the notion of sustainability of the current account deficit using the consumption smoothing approach model. The major objective is to explain sustainability by comparing the derived optimal current accounts with the actual current accounts taking into consideration intertemporal sustainability of the current account in response of consumption, investment and savings.

Empirical evidences suggest that the current account deficits in Indonesia, Malaysia and the Philippines could be explained by the intertemporal model. Results also show that prior to the crisis, there was some degree of overborrowing but it appears that overall, the current account deficits for Indonesia, Malaysia and the Philippines were sustainable during the period 1970-1997. The paper notes that current account deficits apart, other factors that caused the financial crisis included the pegging of the exchange rates and accumulation of short-term foreign liabilities with explicit and implicit government guarantee.

It is also noted that for developing countries, it may be optimal to run current account deficits, provided it is not excessively large but any current account imbalances must be dealt with at source — excessive domestic absorption, particularly consumption.

On Current Account Deficits

“The size of the current account deficits is of concern..., especially those that received the largest amount of flows”

The World Bank, Private Capital Flows to Developing Countries, p.188, 1997

1. Introduction

Current account deficits are often and rightly blamed for many countries' economic problems. An excessive current account deficit is seen as one of the major causes of the Mexican crisis in 1994 and the Thai currency crisis in 1997. In both cases, the current account deficits were about 8 percent of GDP, well above the 5 percent threshold and therefore deemed “unsustainable” by market participants. Many of the SEACEN countries were so called “supersavers”, but yet they had, before the financial crisis, experienced persistent current account deficits in excess of 5% of GDP. This raises the issue of the economies' vulnerability to external shocks.

In an intertemporal framework, some have argued that developing countries need and should accumulate capital goods by running current account deficits, a concept parallel to that of “borrow young and lend later”. However, it is fundamental to ask how large the imbalances should be and how sustainable they can be over a longer period. By definition, a current account deficit implies that a country is running down its foreign assets or accumulating foreign liabilities. As the current account deficit implies a change in the net international investment position of a country, a deficit means that a country is accumulating debts. Hence, within the intertemporal constraint, sustainability indicates that if a country is a net debtor, it must generate future current account surpluses large enough to repay its debts.

This research attempts to compare the evolution of the current account balance against an optimal current account level derived from a consumption-smoothing model. If the path of actual net liabilities has risen more steeply than the path of the country's net foreign liabilities as generated by the model, then the current account deficit is deemed unsustainable. One can then objectively use this indicator to gauge the sustainability of the current account deficit.

The objectives of the research study are to: (i) conduct a comparative analysis on the causes of the current account deficit; (ii) examine the notion of sustainability in the context of the SEACEN economies; and (iii) suggest policy options to deal with current account deficits.

2. Sources of Current Account Deficits

The current account deficit can emanate from various sources and can be viewed from different perspectives: an increase in domestic investment; a drop in private savings; or a higher government budget deficit. Alternatively, it can be viewed as the excess of imports over exports of goods and services.

It is useful to define the current account balance from a saving-investment perspective.

$$CA_t = S_t^P + I_t + DEF_t$$

Where CA_t is the current account balance, S_t^P is private savings, I_t is domestic private investment and DEF_t is the government deficit. Through the savings and investment gap, CA measures additional foreign resources needed to finance domestic investment.

The saving-investment perspective indicates that a fall in savings, private and/or public, *ceteribus paribus* would lead to a widening of the current account deficit. Therefore, current account deficits can emanate from structurally low and falling private sector savings rates even if there is optimal consumption (Hong, 1997).

The current account balances can also be defined as equal to balances on trade, services, and net factor income. As a trade transaction requires a corresponding financial transaction, either capital or reserve movement, any deficit in the current account has to be financed either through net capital flows or changes in the official reserves, effectively raising the country's net foreign liabilities.

3. Does Current Account Deficits matter?

Milesi-Ferretti and Razin (1996 a, b) suggest that if the current account deficit/GDP is too large, the deficit may not be sustainable; a

rule of thumb is that the current account deficit should not exceed 5 percent of GDP in a particular year. On the other hand, a current account surplus does not always indicate a sign of strength of the economy. It could simply reflect trade restrictions or poor investment opportunities. However, the general consensus is that external financing offered by non-residents must be resisted if it brings macroeconomic instability, excessive risk-taking in the banking sector and a sharp drop in savings (Reisen, 1997). Furthermore, in the event that a crisis does occur, an excessive current account deficit implies a need for larger and more painful macroeconomic adjustments (Hakkio, 1995). As developing countries are less likely to accumulate capital, the yield on investment should be higher than in developed countries (The Economist, 1995). If foreign borrowings are used to finance quality investment which would eventually yield a return higher than or, at the margin, equal to, the cost of financing, a country can run a current account deficit at a certain stage of development without too much concern. The so called 'good' deficit (Goldstein, 1998) would include deficits not due to the saving-investment gap of the public sector. A 'right' current account balance would then simply mean enjoying now a level of consumption without sacrificing investment (Brash, 1998).

However, in reality, various market failures can distort the expected returns to savings and investment. The over-borrowing syndrome argued by McKinnon and Pill (1997) can lead to excessive consumption and excessive investments in relatively unproductive sectors, such as in real estate.

The Lawson doctrine (named after Nigel Lawson, a former British Chancellor of the Exchequer) states that a current account deficit principally due to the private sector's saving-investment gap reflects rational decisions made by economic agents (The Economist, 1995). Therefore it is inappropriate for the authority to be too much concerned with a current account deficit that is private-sector driven. Accordingly, even without any intervention, the current account and thus the balance of payments would eventually undergo a painless self correction to balance between the flows of debts and investment.

Deficits due to imbalances in the fiscal position tend to suppress the financial system, leading to excessively high interest rates that tend to depress investments. In addition, current account deficits due to inconsistent fiscal policies are believed to be widely responsible for the

speculative attack on central bank foreign exchange reserves (Krugman, 1979 and Flood and Garber, 1984). In addition, excessive public debt denominated in foreign currency can increase currency risk which may lead to difficulties in debt servicing, rollover and eventually default if the tax base is inadequate to service the debt (Pitchford, 1992). The accumulation of debt and future interest payments to service the stock of accumulated liabilities could then burden future generations. As a result, deficits due to the public sector can be relatively more persistent. However, private sector spending financed by capital inflows is not necessarily rational (Corden, 1991). The recent Asian crisis saw the private sector borrow excessively from abroad. Furthermore, excessive private borrowing is likely to generate moral hazard because in the past, the authorities have in nearly all instances bailed the private sector out in a crisis. However, in many cases, speculators still attacked currencies even though the current account deficits reflected private-sector savings-investment imbalances as in the case of Chile in early 1980s, in the United Kingdom and the Nordic countries in late 1980s, and Mexico and Argentina in mid-1990s, (Reisen, 1997). In addition, excessive foreign borrowing to finance investment, even by the private sector may not be desirable due to diminishing returns to capital. There is a limit to investment-induced growth (Krugman, 1994).

Globalisation means higher capital mobility but does not necessarily imply that the supply of foreign funds is unlimited. Countries that finance their current account deficits with volatile capital flows can expect to face problems eventually (The Economist, 1995). This was the case for many Asian countries where persistent current account deficits were increasingly financed by cyclical capital inflows (Calvo, Leiderman and Reinhart, 1996). Large capital inflows normally boost investment but it can also lead to deterioration of the current account balances through the real depreciation of the exchange rate or increased consumption (Hong, 1997). Large capital inflows to finance excessive deficits may also undermine central bank's control over monetary policy (The Economist, 1996). Monetary sterilisation is usually found to be inadequate and undesirable in the longer-run (Lim, 1998).

Under the fixed exchange rate regime with capital controls, such as the Bretton Woods system, current account balance critically determines the level of international reserves. Persistent current account deficits draw down reserves, leading to a possible foreign exchange crisis (Krugman, 1970). On the other hand, with floating exchange rate,

current account deficits accompanied by excessive capital inflows can result in an overvalued currency, not due to changes in economic fundamentals, leading to macroeconomic disequilibrium. The real exchange rate appreciation can lead to a decline in savings as domestic residents substitute present to future consumption, A vicious cycle is then created when the currency misalignment leads to increasing consumption of imported goods and capital creating a further widening of the current account balance and possibly loss of foreign exchange reserves (Milesi-Ferretti G.M., and A. Razin, 1996b).

Relatively large current account deficits often reflect loss of international competitiveness, requiring substantial macroeconomic adjustment. As such, national authorities are usually quick to blame excessive current account deficits either on increasing imports or on import restrictions of trading countries. Thus, they are likely to impose restrictions, import controls or trade barriers (The Economist, 1996). In reality, current account deficits could be due to imbalances in the services account such as in transport and financial services. Eventually, trade restrictions and import controls would not serve any useful purpose. Unless domestic spending is reduced, consumers would just shift spending from controlled to uncontrolled imports.

4. The Consumption Smoothing Approach

The consumption smoothing approach takes into consideration intertemporal sustainability of the current account in response of consumption and savings. The consumption smoothing approach was featured in Frenkel and Razin (1987), Ghosh (1990), Sheffrin and Woo (1990), Otto (1992) and Ghosh (1995). The model is also consistent with investment being optimally chosen to maximise net productive wealth of the nation, given world interest rates and technology. The intertemporal approach also suggests that economic agents are forward-looking in their saving and investment decisions (Obstfeld and Rogoff, 1994).

4.1 The Analytical Framework¹

Assume that economic agents maximize the following utility functions:

1. Drawn from Cashin P., and C., John, Mcdermott (1996) and Ghosh A.R., and Ostry D., (1995).

$$E_t \sum_{t=0}^{\infty} \delta^t U(C_t) \quad (1)$$

where $0 < \delta < 1$ and δ is the subjective discount factor. If the utility function is quadratic, $U(C_t) = C_t - a C_t^2/2$, then the first and second derivatives are $C' = 1 - aC_t > 0$ and $C'' = -a < 0$ respectively. The budget constraint is then given by

$$\Delta b_{t+1} = rb_t + y_t - c_t - i_t - g_t \quad (2)$$

Where the net change in foreign liabilities $\{(\Delta b_{t+1})\}$, also the current account balance is given by the “national cash flow $(Z_t) = (y_t - i_t - g_t)$ ” less private consumption c_t and less net foreign investment payments (rb_t) , where y_t is output, i_t is total investment, g_t is government consumption and r is fixed world interest rate.

Maximizing (1) subject to (2), subject to $C_t < 1$,

the optimal path of consumption is given by

$$c_t^* = (r/\theta) [b_t + (1+r)^{-1} E_t \{ \sum_{j=0}^{\infty} (1+r)^{-j} Z_{t+j} \}] \quad (3)$$

$$\theta = \{ \delta(1+r)r / [\delta(1+r)^2 - 1] \} \quad (4)$$

In this case, the optimal path of consumption is proportional to the present value of the national cash flow and interest payments on the existing stock of assets. When $\theta < 1$, economic agents tilt consumption towards the present, thus creating a possible worsening of the current account balance. If $\theta > 1$, consumption is tilted towards the future and if $\theta = 1$, then there is no tilting effect.

Defining optimal consumption smoothing current account,

$$(CA_t^*) = z_t - \theta c_t^* - rb_t \quad (5)$$

Manipulating (3) and (5), the optimal current account can be derived as

$$(CA^*_t) = - E_t \left\{ \sum_{j=0}^{\infty} (1+r)^{-j} \Delta (y_{t+j} - i_{t+j} - g_{t+j}) \right\} \quad (6)$$

The derived optimal current account is a function of the weighted sum of the future change in income. An expected increase in future income will result in deterioration in the current account in time t . In other words, economic agents seek to smooth out the consumption level in response to future shocks. That is, the path of consumption can be made smooth by borrowing in the international capital market. Permanent shocks to y_t , i_t or g_t have no effect on CA^*_t since their expected change is zero. For example, a permanent change in y_t will cause an equal change in c_t , leaving savings and investment unchanged.

By iterating (2) ,

$$b_t = E_t [(1+r)^{-t} b_T - \sum_{j=0}^{T-1} (1+r)^{-j} \Delta (q_{t+j})] \quad (7)$$

where $(q_t) = (y_t - i_t - g_t) - c_t$

If the model is valid, then

$$b^*_t = E_t [\lim_{T \rightarrow \infty} \sum_{j=0}^{T-1} (1+r)^{-j} \Delta (q^*_{t+j})] \quad (8)$$

where $q^*_t = (y_t - i_t - g_t) - c^*_t$ and $E_t (1+r)^{-t} b_t = 0$

Where b_t and b^*_t are the actual path of net foreign liabilities and the model-generated path of foreign liabilities respectively. By construction b^*_t is stationary. Therefore, if $(b_t - b^*_t)$ is stationary, the actual current account deficit is sustainable.

4.2 Estimation Techniques

By using equation 5 $\{(z_t - rb_t)$ on $c_t\}$, the consumption tilting parameter θ can be estimated. In this case, the Hansen (1990) Fully Modified (FM) method is used to yield the asymptotically correct variance-covariance estimator in the presence of serial correlation and endogeneity.

However, the estimation of CA_t^* of equation 6 requires the present value of expected change in national cash flows (Z_t), which is difficult to obtain. However, the problem can be solved by using the estimation method proposed by Campbell and Shiller (1987). Basically, their approach uses the bivariate VAR estimation.

The bivariate VAR can be represented as

$$X_t = \phi X_{t-1} + e_t \quad (9)$$

where $X_t = [\Delta (y_t - i_t - g_t), CA_t]'$ and e_t is a 2×1 vector of disturbance and ϕ is a 2×2 matrix of coefficients and $CA_t = (y_t - i_t - g_t) - \theta c_t$.

$$\text{As } E_t [X_{t+h}] = \phi^h X_t,$$

the optimal current account is therefore given by,

$$CA^* = -[1 \ 0][\phi/(1+r)^{-1}][I-\phi/(1+r)^{-1}]X_t = \Gamma X_t \quad (10)$$

By including the actual current account, expectation on output, investment and government expenditure can be fully captured by the model. The VAR system requires that the all the variables are stationary. If $z_t = (y_t - i_t - g_t)$ is $I(1)$ then Δz_t is $I(0)$. By definition, the residual series is CA_t , from equation 5. This implies that z_t and c_t must be cointegrated for the VAR to converge. In this respect, the hypothesis of cointegration and stability of the equations is examined using the Hansen's (Hansen, 1992) Lc and $Mean_F$ and Sup_F tests respectively.

In addition, the implication of the intertemporal model is that the current account should Granger-cause changes in the cash flow variables. Furthermore, if the actual consumption-smoothing current account CA reflects the optimal consumption-smoothing current account CA^* , then the model requires that Γ is restricted to $[0,1]$, implying that the coefficient on national cash flows be closed to zero and that the coefficient of the current account be closed to unity. In this aspect, a non-linear Wald test is applied to test these restrictions.

The variance of the actual consumption-smoothing current account and the optimal actual consumption-smoothing current account can then be compared. If this ratio > 1 , it suggests that capital flows are "excessively" volatile and the country is not able to make full use of capital flows to smooth consumption. On the other hand, if the ratio < 1 , then there is some restriction to capital mobility.

The optimal consumption smoothing current account CA^* can be compared to the actual consumption smoothing current account CA to determine whether the deficits or surpluses have been excessive in a given period. If the actual deficit is larger than the derived optimal current account deficit, then there is excessive external borrowings for private consumption purposes (Ostry, 1997).

The sustainability of the current account deficit can then be examined to see whether the net foreign liabilities (b^*) and the actual net foreign liabilities (b) is sustainable. If the deficits is to be sustainable then $(b-b^*)$ must be stationary. This can be assessed through unit root tests on $(b-b^*)$.

5. Current Account Balances:

In Indonesia, Korea, Malaysia, Philippines and Thailand², in general current account deficits had deteriorated in the 1990s. However, the manner in which the deficit occurred differs. Except for Indonesia and Malaysia, the trade account balance was the main reason for the deficit in the current account. Due to large worker remittances from abroad, the Philippines and Thailand had consistently achieved surpluses on the services account. In addition, Thailand also received large sums from tourism. Indonesia and Malaysia, on the other hand, ran large deficits in transport and shipping services. Since the 1980s all five countries experienced deficits in investment account balances, representing payments of profits and dividends to foreign investors.

5.1 Indonesia

For almost three decades, Indonesia recorded a surplus in the current account only twice (1979/80 and 1980/81). However, the surpluses were due not to structural improvement in the investment-saving gap but rather to a sharp increase in oil prices from US\$10.8 per barrel in 1975 to US\$35.0 per barrel in 1981. The deficits in the current account were due to deficits in the services account as the balance of trade was always in surplus.

2. These countries are chosen by virtue of being classified by the IMF as crisis-inflicted countries.

Indonesia's merchandise export has been dominated by the oil/gas sector while the service account deficits were mainly due to non-oil/LNG services such as non-oil gas freight charges, interest payments on government debt and payments on investment income. When oil prices deteriorated in 1982, the government took efforts to promote the non-oil gas sector and to accelerate domestic saving mobilisation. It also decided to devalue the rupiah by 28 percent against the US dollar in March 1983.

Indonesia experienced another major devaluation in September 1986 by 31 percent *vis-a-vis* the US dollar. The exchange rate actions reflected efforts to stem increasing current account deficits and declining foreign exchange reserves. In 1988 Indonesia accepted the obligations of Article VIII of the IMF's Articles of Agreement. Restrictions were eased on the importation of raw materials and intermediate goods for producing export goods. Subsequently, in the period of 1987/88 to 1994/95, merchandise imports increased.

During 1992-1996, Indonesia attracted large net private capital inflows, both in FDI and portfolio flows. Despite limitations on public sector borrowing from abroad during this period, the authorities continued to arrange trade financing (Johnston et al., 1997). The current account deficit increased from an average of 1.5 percent in 1994-1996 to an average of more than 3 percent between 1994-1997, reflecting mainly a decline in the trade surpluses.

5.2 Korea

Korea launched its export-oriented growth strategy with the First Five-Year Economic Plan in 1962. In the 1970s, the government began to promote heavy and chemical industries, and in pursuit of a high investment strategy, Korea became the world's fourth largest debtor country in 1981 (Park, 1996). The current account, long saddled with a chronic deficit, improved significantly in 1982, due to tighter monetary and fiscal policies, and moved into surplus in 1986. The current account surpluses in 1986-89 owed mainly to the "three lows, namely low oil prices, low international interest rates and low value of the U.S. dollar in term of the Japanese yen" (Bank of Korea, 1998). The surpluses prompted the authorities to accelerate liberalisation in foreign exchange and capital account. In 1988 Korea accepted the obligations of Article VIII of the IMF.

By 1989, the current account surplus slowed, reflecting a weakening fiscal position and an appreciation in the real exchange rate (Johnston et al., 1997). The current account slid into deficit in 1990. The deficit averaged less than 1 percent during 1993-1995, but reached 4.5 percent in 1996.

5.3 Malaysia

In the 1970s the surpluses in the merchandize account were more than enough to offset deficits in the services account. However, in the early 1980s, the deficit in the services sector deteriorated , causing the current account to be in deficit. In 1987-1989, the current account reverted to surplus, due to voluntary structural adjustment policies undertaken by the government and spurred by a commodity export boom. There was fiscal restraint and recovery in exports. The main engine of growth shifted to the private sector.

In the early 1980s the fiscal position was in deficit, due to counter cyclical policy pursued by the government. By the 1990s the fiscal account started to register surpluses, although relatively larger current account deficits emerged because of the acceleration of private sector investment. Furthermore, the increase in private savings was insufficient to match the surge in investment. Thus, the current account deficit rose to 10.5 percent of GNP in 1995, before slowing to 5.1 percent in 1996-97. In 1996 the government placed priority in promoting services as a potential source of export growth. Excluding the net outflow on investment income, the services deficit improved from 7.8 percent of GNP in 1980 to 3.3 percent in 1996 and 2.8 percent in 1997.

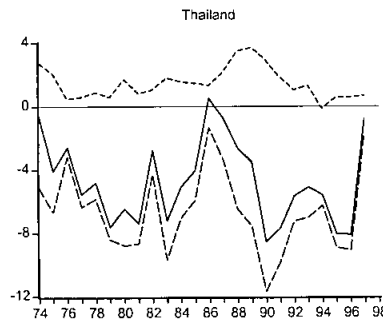
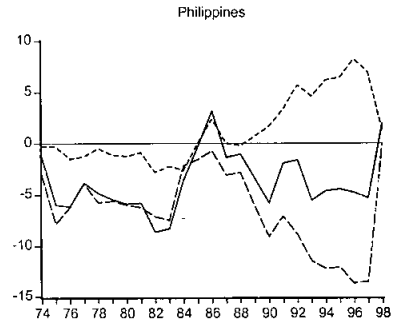
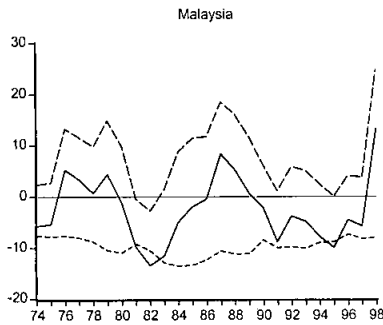
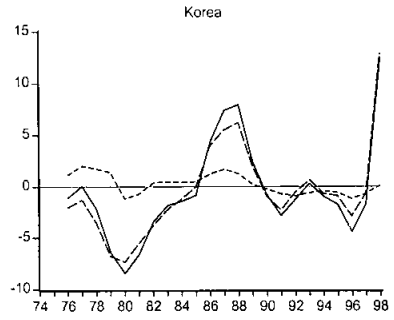
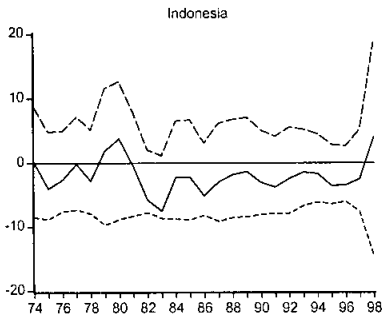
5.4 Philippines³

In the early 1970s deterioration in the term of trade, high world interest rates and declining world trade led to a slowdown in economic growth. In an effort to spur economic growth, the government raised aggregate demand through increased investments (Sikorski, 1994). In real terms, government expenditure increased by 17 percent in 1973 and 40 percent in 1975 (Dohner and Intal, 1989), a large portion of which was financed by foreign borrowing. The public sector held two-thirds of the debt of non-banking sector by the end of the decade (Dohner and Intal, 1989).

3. See Pechuela (1993).

Chart 1

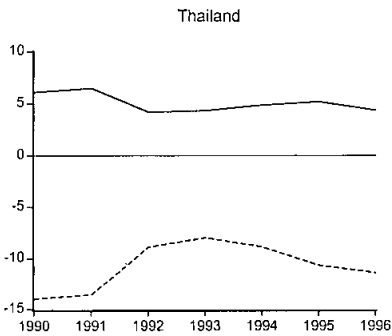
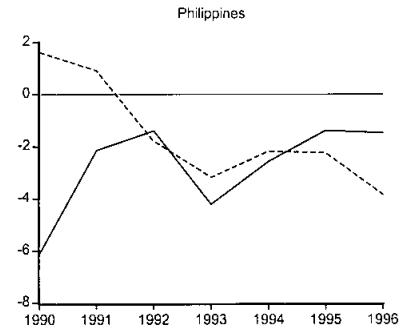
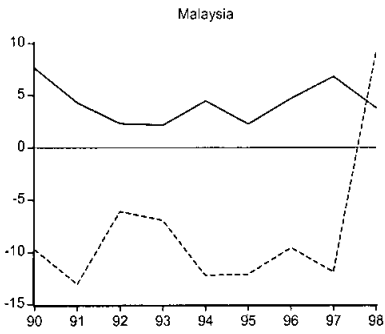
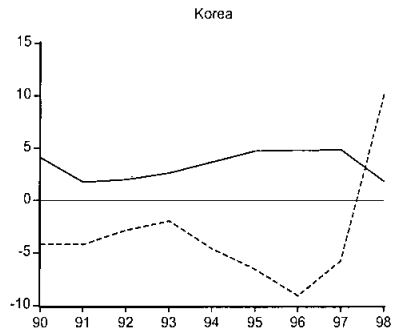
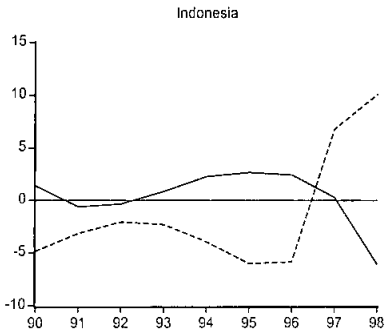
Current, Trade and Services Balances (% of GDP)



— CA : Current Account Balance
- - - SA : Service Account Balance
- . - . TB : Trade Balance

Source SFS, SEACEN

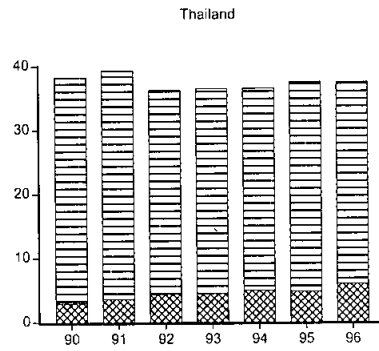
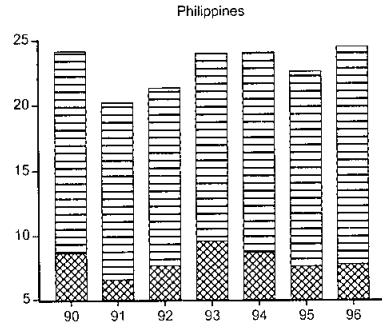
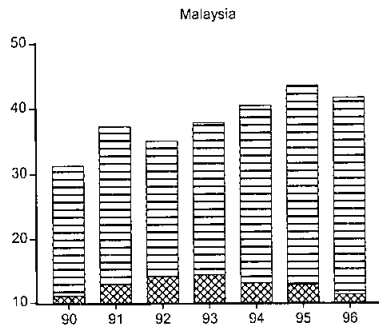
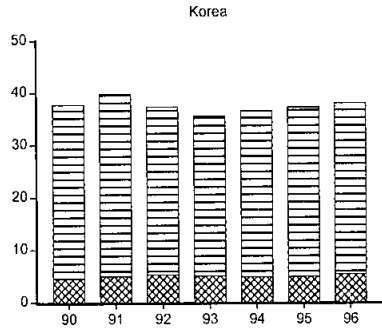
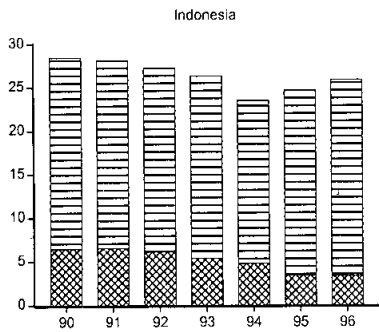
Chart 2
Savings-Investment Gap (% of GDP)



— Public - - - Private

Source: SFS, SEACEN

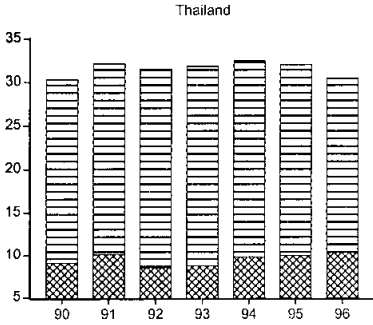
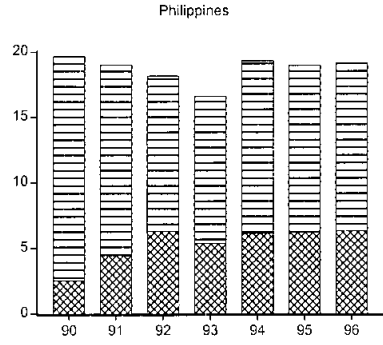
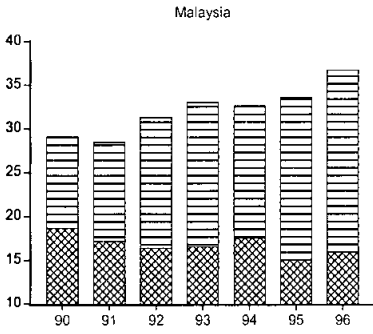
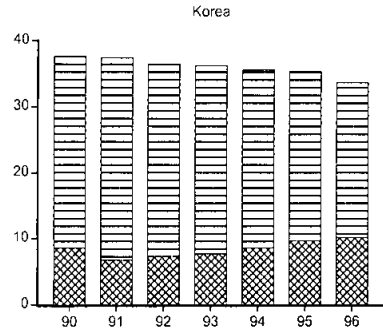
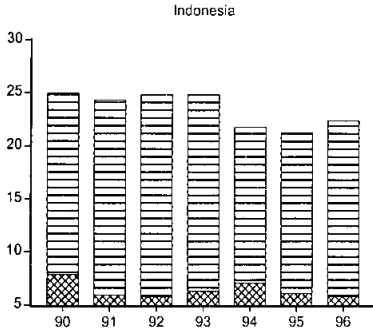
Chart 3
Investment Rates (% of GDP)



Public Private

Source: SFS, SEACEN

Chart 4
Savings Rate (% of GDP)



Public Private

Source: SFS, SEACEN

The widening current account deficits, heavy recourse to foreign borrowing and growing capital flight led the Philippines to declare a debt moratorium in 1983. By 1985, the current account deficit improved significantly, due to the stabilisation measures undertaken by the authorities. In 1986 the new government brought about renewed confidence and with greater economic stability, domestic savings increased faster than investments. However, from 1987 onwards, the country once again experienced current account deficits, although as a proportion of GNP, the deficits were significantly less. In 1991, foreign investment was liberalized and in 1993, foreign exchange regulations governing current accounts were fully liberalised. In the 1990s the non-merchandise and transfer trade account remained favourable, with the surplus in the transfer accounts helped by large worker remittances from abroad. However, the trade balance continued to deteriorate until 1998.

5.5 Thailand

The use of foreign savings was substantial in the second half of 1970 when the current account deficit averaged 5.1 percent of GDP, notwithstanding surpluses in the services and transfer accounts. This was due mainly to higher public infrastructure spending (Nijathaworn, 1993) and rapid credit expansion in the private sector (Sathornkich and Sattabusaya, 1997). In 1981, the government tightened fiscal policies and at the same time adopted measures to encourage exports. In the first half of 1980s, the current account deficit improved to 4.3 percent of GDP. The exchange rate adjustment in 1984 further improved the current account deficit, which shifted to a slight surplus in 1986. Liberalisation of the foreign exchange market began in 1990, resulting in a surplus in the capital account that was sufficient to offset a deficit in current account. However, the current account deficit widened and reached 8.9 percent of GDP in 1990, due mainly to the private sector savings-investment imbalance. By 1995, the services account continued to remain in surplus, the trade deficit worsened, and the current account deficit reached 8.0 percent of GDP. By 1997, reflecting the financial crisis, the trade deficit declined to less than half its 1996 level, while the service and transfer accounts managed a slightly smaller surplus.

6. Financing the Current Account Deficit

In general, unlike the 1980s, the current account deficit in the 1990s was generally associated with large capital inflows and economic growth (Table 1). During the capital inflow periods, Malaysia, the Philippines and Thailand exhibited sharp deterioration in the current account balances, with Korea experiencing the lowest average current account deficit of 1.7 percent. Except for Malaysia and the Philippines, none of the countries experienced an appreciation of the exchange rate against the US dollar. The exchange rate volatility was relatively low for Indonesia and Thailand, indicating that the two countries placed extreme importance on nominal exchange rate stability. Inflation in all five countries was manageable over the same period.

Table 1
Selected Key Indicators ¹
(Annual Percentage Changes 1990-1997)

Country	Inflow Episode	Average Annual GDP growth (5)	Average Annual inflation (%)	Current Account Deficit (% of GDP)	Average Annual Appreciation Vs. US\$ ^{2/}	Exchange rate Volatility ^{3/}
Indonesia	90-95	7.6	8.4	-2.8	-3.8	0.7
Korea	91-95	7.5	6.3	-1.7	-3.2	3.4
Malaysia	89-95	8.7	3.7	-5.9	1.2	2.6
Philippines	89-95	3.1	9.8	-4.3	0.9	3.8
Thailand	89-95	7.4	5.2	-6.2	-0.3	1.2

1/ Source: SFS, World Bank (1998/99), Table 2.3.

2/ As from January 1991 to June 1997 : A positive number indicates an appreciation.

3/ Standard deviation of percentage deviation of exchange rate (US\$) from regression on a time trend.

The savings-investment gap, in all the five countries in the 1990s, shows that the current account deficits were associated with a rise in both investment and savings. But the increase in domestic savings was not sufficient to support domestic investment. Except for the Philippines, during 1981-1986, the investment as a ratio of GDP were well over 30 percent (Table 2). The increase in domestic savings were mainly due to the wealth effect, increasing sophistication of the financial sector as well as well organized saving schemes such as the

Employment Provident Fund (EPF) in Malaysia. By comparison, in the 1990s the savings rates reached 35-38 percent of GDP in Thailand and Malaysia, over 30 percent in Indonesia and 20 percent in the Philippines. The increase in investment was due mainly to better investment opportunities offered by the relatively high economic growth. As the fiscal positions were in general much stronger in 1990s as compared to the 1980s, it is obvious that the savings-investment gap was private sector driven. In fact, the contribution of fiscal balances to the gap was negative as they were in mostly in surpluses (Table 3).

Table 2
Investment
(Percentage of GDP)

	1960-64	1981-96
Indonesia	18.1	32
Korea	23.5	33.5
Malaysia	25.6	35.8
Philippines	19.8	22.3
Thailand	25.6	35.4

Source: East Asian Growth Before and After the Crisis, (Crafts, 1998), p.19.

Table 3
Fiscal Balances
(Percentage of GDP)

Country	1993-95	1996
Indonesia	1.2	0.9
Korea	0.4	0.3
Malaysia	2.3	1.1
Philippines	0.0	-0.4
Thailand	2.3	2.3

Source : The World Bank, 1998.

The flows of foreign direct investment (FDI) to the SEACEN countries have been strong in the 1990s. This was due to the appreciation of the yen and also a liberal policy of attracting FDI by switching development strategies from that of import-substitution to more competitive export promotion⁴. Between 1988-1993, the average FDI to total private inflows was 60.5 percent for Malaysia, 30.8 percent for Thailand, 18.9 percent for Indonesia and 16.3 percent for Korea. In addition, the World Bank has noted that in contrast to the 1970s and 1980s where resource extraction was the main purpose of FDI, in the 1990's, FDI in developing countries was associated with efficiency-seeking investment that resulted in high value added and skilled-intensive manufacturing sectors (The World Bank, 1997).

7. Empirical Results⁵

Hansen's Lc tests indicate that the null hypothesis of a cointegrated relationship between $[y_t - i_t - g_t]$ on c_t is not rejected⁶. In addition, except for Thailand, the null hypothesis of a constant parameter is not rejected. The mean_F and Sup_F tests have values less than the 5 percent critical level of 4.57 and 12.4, respectively.

The parameter estimate θ of all the five countries is statistically significant at five percent. And in all the five countries, $\theta < 1$, indicating that there is a tendency to tilt consumption towards the present (Table 4). This is hardly surprising, since all countries, except Korea, experienced substantially current account deficits through the period under review (Table 1).

4. By the 1980s, the five SEACEN countries above had implemented and accepted Article VIII obligation of the IMF. At the same time, exchange liberalization was carried out to allow for greater economic efficiency in the financial systems. Indonesia, Malaysia and Thailand were the first to launch both current and capital account liberalisation. Korea and the Philippines launched their capital account liberalization programmes in the 1990s.

5. The authors are indebted to John McDermott who has kindly supplied us a copy of the computer program. All variables are deflated by the implicit GDP deflator and the sample period is 1970. Following Cashin and McDermott, 1996, we choose the discount rate to be 4 percent. However, the optimal current accounts were also computed with the rate ranging from 2 percent to 6 percent and the results only differed marginally.

6. The results were similar to tests conducted using the Johansen cointegration tests. In addition, except for Thailand, the sequential ADF unit root tests do not reject the null hypothesis of a unit root for (y_t, i_t, g_t) and c_t .

Table 4
Consumption-Tilting Parameter

	θ	se (θ)	Lc	Mean-F	Sup-F
Indonesia	0.9406	0.0261	0.4130	2.7493	5.2494
Korea	0.9720	0.0128	0.2193	2.8974	7.7121
Malaysia	0.9125	0.0154	0.4379	3.3119	8.9805
Philippines	0.9487	0.0125	0.2482	1.3880	4.3920
Thailand	0.8962	0.0076	0.4179	3.1063	13.027**

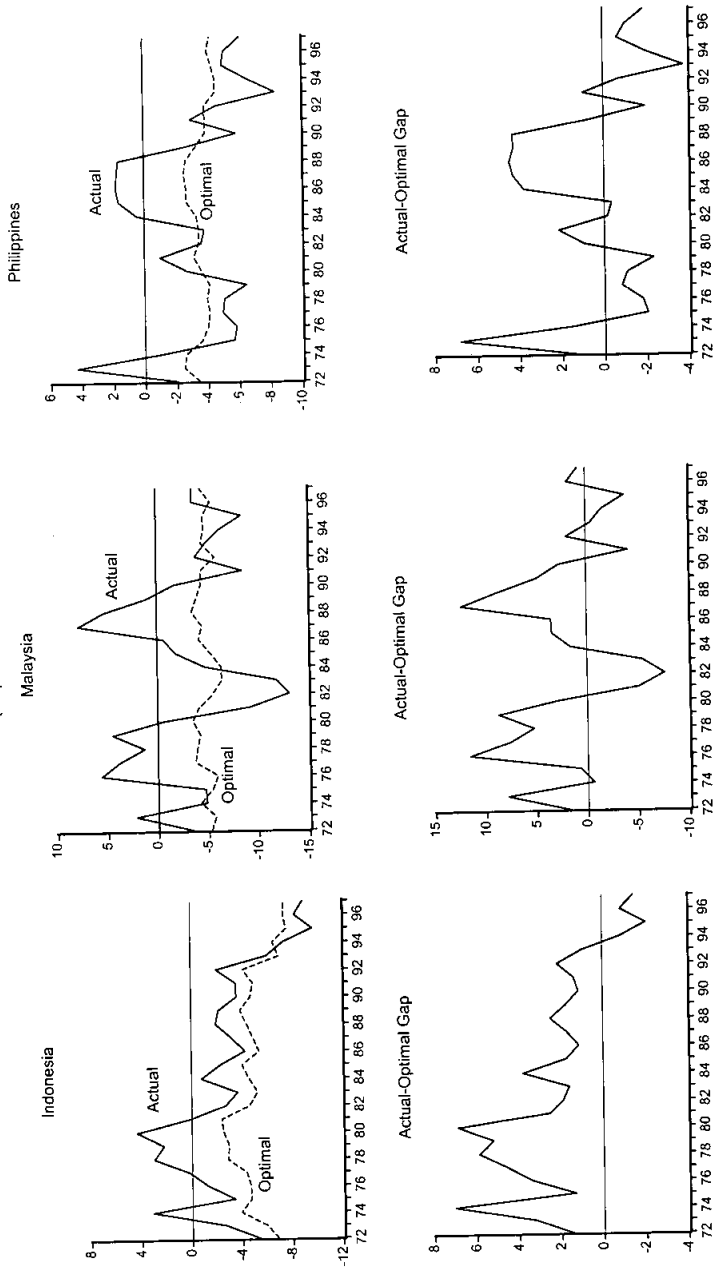
θ is estimated from equation (5) using the Phillips and Hansen Fully Modified Method. $se(\theta)$ is the asymptotically correct standard error. Lc, Mean_F and Sup_F are Hansen, (1992) test statistics for parameter stability in regression with I(1) processes. The 5% critical values for the stability tests are 12.40 (Lc), 4.47 (mean_F) and 0.58 (Sup_F), respectively. (** 5 % significant)

Table 5
Tests of the intertemporal Model

	Granger F	Causality P Value	Nonlinear Wald	Restriction P-Value	Variance Ratio
Indonesia	3.5680	0.0716 *	0.0476	0.9765	1.4194
Korea	4.6137	0.0425 **	151.18	0.0000 ***	0.4100
Malaysia	8.4370	0.0080***	2.8710	0.2380	2.2109
Philippines	5.9371	0.0230***	0.1876	0.9105	2.8506
Thailand	18.1555	0.0003***	95.395	0.0000***	0.7896

The Granger causality tests determine causality from current account to changes in the national cash flow. The nonlinear restriction tests is to test whether the estimated VAR coefficients of equation 7 satisfy the restriction of [0,1]. The variance ratio compares the variance of the actual consumption smoothing current account with that of the optimal consumption smoothing current account. (*** 1% significant, ** 5% significant, * 10% significant)

Chart 5
 Actual and Optimal Current Account (NA definition), 1972-1997
 (In percent of GDP)



In all five countries, the null hypothesis of causality from the current account to the changes in national cash flows is not rejected (Table 5). However, the nonlinear restrictions were rejected for the case of Korea and Thailand. It implies that Korea and Thailand were not able to optimally smooth their consumption paths.⁷ The variance ratio is greater than one in Indonesia, Malaysia and Philippines, indicating that capital flows have been "excessively volatile" and that the countries have not been able to smooth consumption.⁸

Chart 5 shows that in Indonesia, only in 1993 onwards that there was some evidence of excessive private sector borrowing for consumption. This was the period when Indonesia experienced economic overheating. In Malaysia, there were two sub-periods where the actual current account deficits were larger than the optimal current account deficits. Between 1982-1983, the large actual current account deficits were attributed mostly to the prolonged world recession that weakened exports of goods and services. Between 1991-1995, Malaysia experienced overheating of the economy and excessive volatility of short-term capital inflows (1992-1994). However, between 1996-1997, even though the current account was in deficit, there was no evidence of excessive borrowing. In the Philippines, excessive borrowings showed up between 1975-1980 and throughout most of the 1990s. The Philippines began to experience high growth rates from 1993 onwards.

7.1 Sustainability of the Current Account Deficits

In all the three countries tested, both the ADF and the PP tests rejected the null hypothesis of unit roots on the difference between the actual net foreign liabilities, b and the optimal net foreign liabilities, b^* (Table 6). The results were supported by the KPSS tests which do not reject the null of a unit root. In addition, Johanson's cointegrated tests were also performed on the actual consumption smoothing current account (CA) and the optimal consumption smoothing current account, CA^* .

7. This findings are consistent with the result of Ghosh and Ostry (1995) who use a longer time series from 1950's onwards. A possible explanation is the "possibility of endogenous government behaviour... as government may act to smooth current account movements in the face of shocks to the economy." (Ghosh and Ostry, 1995).

8. This assumes that investment is less variable and agents could only vary consumption behaviour (BNM).

They were found to be cointegrated. The results show that the net foreign liability paths do not diverge in the long-run, indicating that the current account deficit between the period 1970-1997 for Indonesia, Malaysia and Philippines were sustainable.

Table 6
Tests for the Sustainability of International Indebtedness

(b-b*)	ADF Statistics	PP Statistics	KPSS(Γ)
Indonesia	-3.94 (c,0)***	3.94(c,0)***	0.196 (3)
Malaysia	-4.54 (t,3)***	-2.14 (c,0)**	0.064 (3)
Philippines	-3.48 (t,3*	-1.54 (c,3)	0.095 (3)

The augmented Dickey-Fuller tests use the sequential test proposed by Hall (1990) and Perron (1991) whereby tests are conducted starting off with a prior lag length. At any stage, if the null of unit roots is rejected, then the series is considered to be stationary. PP is Phillips-Perron unit root tests. KPSS(Γ) is Kwiatkowski-Phillips-Schmidt-Shin statistics to test the null of trend stationarity. A sequential test of KPSS is used. The maximum lag length for the above two tests is set at 3. The KPSS tests complement the ADF tests because of the 'reverse' null hypothesis. (*** 1% significant, ** 5% significant, c=Constant, t=trend and constant. Figures in parentheses refer to the number of lags).

To summarise:

1. The intertemporal consumption smoothing model fits reasonably well in the case of Indonesia, Malaysia and the Philippines. However, the model is rejected for the case of Korea and Thailand. It appears that Korea and Thailand were not optimally smoothing their consumption path in relation to their current account deficits. The consumption tilting estimates for all the five countries indicate a tendency to tilt towards present consumption;
2. For Indonesia, Malaysia and the Philippines, it appears that during the period of economic overheating, they overborrowed, resulting in the actual consumption smoothing current account deficits exceeded the optimal consumption smoothing current account deficits;

3. The variance ratio tests indicate that capital flows have been volatile and that the countries were unable to make use of the capital flows to smooth consumption. In addition, unfavourable external shocks such as prolonged world recession which affect exports can cause excessive current account deficits;
4. There is some degree of overborrowing prior to the crisis but it appears that overall, the current account deficits for Indonesia, Malaysia and the Philippines were sustainable during the period 1970-1997, and;
5. The average value of the generated optimal series is 4.9 percent of GDP for Indonesia, 4.8 percent for Malaysia and 3.6 percent for the Philippines. This can give an indicator on how much on average the current account deficits should be. This is hardly surprising given the relative large investment rates, especially for Indonesia and Malaysia.⁹ It also shows that for developing countries, it is optimal to run current account deficits, provided it is not excessively large.

8. Discussions and Policy Implications

The empirical evidence shows that for Indonesia, Malaysia and the Philippines, the current account deficits were sustainable. Why then the crisis? Although the current account deficits as a percentage of GDP were relatively large for Korea, Malaysia and Thailand, real exchange rates were not excessively overvalued (Sachs, Velasco and Tornell, 1996) and it was not the primary cause of Asia's financial crisis (Ohno, 1999). For the Mexican case, overvaluation of the exchange rate was often cited as playing an important role for the crisis (Dornbusch, Goldfajn and Valdes, 1995). During the 1990s the real effective exchange rate appreciated by 5 percent in Indonesia, 13 percent in Malaysia, 18 percent in the Philippines and 9 percent in Thailand but Korea was able to maintain a stable real exchange rate (The World Bank, 1998). Compared to the Mexican crisis of 1994-95, although asset

9. During this period, the high economic growth experienced by the countries implies that the current account deficits may be sustainable as high growth rates tend to lead to higher investment returns (Roubini and Wachtel, 1998).

price inflation was rising steadily, the crisis-inflicted countries were not under any excessive inflationary pressures. Indeed, the region did not have the features of a typical balance-of-payment crisis. However, even though the region entered the crisis with strong fiscal discipline and was as a whole, private sector driven, export-oriented with relatively high savings and investment rates, there were some policy weaknesses. These included the pegging of the exchange rates, accumulation of foreign debts with explicit and implicit government guarantee. Both the 1994 Mexican and 1997 Asian crises were preceded by unprecedented large capital inflows, exposing the vulnerability of the economies to a sudden outflow¹⁰. During 1991-96, foreign short-term liabilities of banks in Korea, Malaysia, Philippines, and Thailand grew rapidly. In addition, after 1994, the ratio of short-term debt to foreign exchange reserves exceeded one in Indonesia, Korea and Thailand. In Indonesia, it was the rapid increase in short-term foreign liabilities of Indonesian corporations, rather than those of banks, that was the cause for concern.¹¹

Improperly sequenced capital account liberalisation was one of the factors blamed for the surges in short-term capital flows and rapid build-up of the stock of foreign debt. For example, in Korea, despite only partial liberalisation of the capital accounts in the 1990s which allowed foreign borrowing by private firms only if they were used for the import of equipment, the current account deficits widened and external debt rapidly accumulated (Lee and Lee, 1999). On the other hand, in Indonesia, alarmed over the increasing stocks of foreign debt, reimposed capital controls and set up a monitoring unit to limit not only the magnitude but also the timing of capital inflows and foreign borrowing. That decision reversed the earlier stance to liberalize foreign borrowing in 1989. However, non-bank private foreign borrowing remained free and led to rapid accumulation of foreign debt (Endy, 1999). In Thailand, in 1993, the setting up of the Bangkok International Offshore Banking Facility (BIBF) as a vehicle to introduce new financial instruments into the domestic markets as well as to effectively mobilise funds. BIBF provided easy access to external financing and the high domestic interest rates, together with the de facto pegged exchange rate prompted financial institutions to take on additional foreign ex-

10. International Monetary Fund, 1998.

11. See the World Bank, 1998.

change risk by borrowing in foreign currencies. In Malaysia, recognizing that a liberal policy on capital inflows at zero cost was no longer viable, the central bank resorted to capital control in 1994.¹²

Between 1992 and 1996, the increase in total debt was three times in Thailand and at least twice in Indonesia, Korea, Malaysia and the Philippines; in all these countries, more than half of the stock of private debt was short term (Table 7). Short-term capital was increasingly used to finance the current account deficit. However, Malaysia managed to avoid excessive debt accumulation, due to large non-debt-creating inflows (Ferretti and Razin, 1996c).

Table 7
Stock of Private Debts

	Total (billions of US dollars)						Short Term (% up to 1 year Maturity)					
	92	93	94	95	96	Mid-97	92	93	94	95	96	Mid-97
Indonesia	28.4	30.5	34.2	44.5	55.5	58.7	60.5	61.7	60.8	61.9	61.7	59.0
Malaysia	8.5	13.0	13.5	16.8	22.2	28.8	48.1	56.8	48.8	47.2	50.3	56.4
Korea	6.9	5.8	6.5	8.3	13.3	14.1	45.7	40.8	47.4	48.8	58.2	58.8
Philippines	38.7	41.2	56.5	77.5	100	103.4	71.4	70.8	71.1	70.0	67.5	67.9
Thailand	23.0	29.6	43.4	62.8	70.1	69.4	69.0	72.1	71.0	69.4	65.2	65.7

Source: United Nations (1998), p.88

The experiences of New Zealand (The Economist, 1998) and Taiwan (a SEACEN member country) are worth noting. New Zealand also had large current account deficits in relation to GDP before the Mexican and Asian crises, but has come out of these crises relatively unaffected. Since New Zealand has had a floating exchange rate, the national authorities have had the flexibility to raise interest rates to curb credit expansion, thus avoiding economic overheating. In addition, over half of New Zealand's foreign debt is dominated in its own currency, thus reducing the impact of any currency depreciation. Furthermore, New Zealand has a much sounder financial sector. The greater transparency in government, banks and firms has made it easier for investors to assess risk.

12. See The World Bank (1998).

In Taiwan, there were several reasons why it was able to come out of the crisis in a relatively better shape. First, Taiwan had enjoyed current account surpluses since the 1980s. Such a prolonged period of surpluses permitted Taiwan to accumulate large international reserves.¹³ Second, Taiwanese firms have not been as highly leveraged as those in other countries as they prefer equity to debt financing. This minimized foreign borrowing and improved the resilience of the private sector. Third, like the Philippines, Taiwan had just recovered from its own asset price bubble crisis in the late 1980s, which caused a severe correction in the stock and real estate markets. The adjustment that followed help to strengthen the financial system as the central bank enforced stricter prudential regulation and supervision while banks had become more cautious toward lending backed by real estate or shares. For instance, the banking sector's exposure to loans backed by shares only accounted for 2.6 percent of total bank lending. Finally the government's cautious stance in liberalizing the financial and capital markets helped to insulate the domestic sector from volatile international capital flows.

Is excessive current account deficit a direct result of financial liberalization? As a result of liberalisation, large capital inflows can lead to real exchange rate appreciation which would tend to weaken competitiveness and export growth. In addition, if inflows are not sterilised, they can increase aggregate expenditures and liquidity, causing inflationary pressures. That is, the sustainability of the capital account becomes an issue of the sustainability of the current account deficit (Yoshitomi and Ohno, 1999). Milesi-Feretti and Razin (1996b) also note that sustainability of the current account balances depends clearly on the "financial factor" i.e., availability of foreign reserves. Therefore, particular attention must also be given to current account deficit which could lead to a possibility of a reversal of capital flows (Summers, 1995). In such a case, macroeconomic policy to restore the imbalances must deal directly with the capital inflows if high capital mobility is the major source of current account instability (Wong and Carranza, 1999). This is well illustrated in Malaysia, where despite a relatively large current account deficit, the contagion effect of the 1995 Mexican crisis did not significantly affect Malaysia, as most of the capital outflows has already occurred earlier, in response to the many measures taken by the central bank in 1994.

13. In addition to a precautionary attitude since Taiwan cannot draw on IMF resources.

Should we then target the current account balance? It is often thought that by targeting internal equilibrium, using macroeconomic policy, the variation in current account can be minimized. In addition, appropriate macroeconomic policy to deal with the current account deficit can improve social welfare (Fahrer, 1992). However, targeting the current account deficit is infeasible in the long run because the nominal exchange rate and prices of non-tradable goods cannot be controlled indefinitely (McLeod, 1997). On the other hand, if exchange rate changes have been followed but not preceded by changes in domestic and international prices, then a change in the exchange rate may not be able to stabilise trade imbalances (The Economist, 1996b).

Pitchford (1992) argues that targeting the current account through macroeconomic policy does not deal with the underlying cause and in the long run does not have any effect on the deficits. He suggests that an alternative approach is to deal with the problem at source — result of excessive demand using microeconomic policy (Pitchford, 1992). Krugman (1989), on the other hand, calls for increased efficiency of the exchange rate system as inefficiencies can result in slow adjustment in the real exchange rate and the path of the current account.

9. Conclusion

Although the current account deficit is an important indicator of macroeconomic fragility, the sustainability of the overall economy depends upon many other factors. Among others, monetary growth, the level of savings and investment, the level and composition of external liabilities, the level of foreign reserves, the degree of openness, the level and flexibility of the exchange rate, the health of the financial system and last but not least, the degree of capital inflows.

Theoretically, a country remains solvent as long as at some stage in the future, it can offset its foreign liabilities, i.e., if it can run current account surpluses in the future. However, in reality, it is difficult to find empirical evidence to support the fact that the size of current account deficit is related to the currency crisis (Frankel and Rose, 1996). Market perceptions of excess borrowing in terms of future earning capacity are very subjective. In many cases, intertemporal sustainability may be irrelevant, as investors are only concerned over prevailing large persistent deficit and large exchange rate appreciation. Often, financial crisis is a

result of loss of confidence in the borrowers' ability to repay (the World Bank, 1998a) rather than the inability to pay. But the market perception of unsustainability and the sudden loss of confidence are less likely to occur when there is greater transparency regarding all aspects of economic and financial sector policies.

The national income account identity clearly shows that the current account deficit per se is not an indicator for policy action, although it does serve as "a red flag" regarding unsound policies (Ouanes and Thakur, 1997). Persistent current account deficits do imply increasing foreign indebtedness and hence some degree of perceived unsustainability. It is also fair to say that excessive current account deficits reflect vulnerability in other areas such as excessive domestic expansion and a unsustainable real exchange rate.

The empirical evidence presented in this paper suggests that the gap between the actual and the optimal smoothing current account deficits in some period can grow to be "non-trivially" large even though the intertemporal constraint is satisfied. Clearly, in developing economies including the SEACEN countries, a reduction of investment to correct current account imbalances is not a solution. The quality of investment matters. We agree with Pitchford (1992) that current account imbalances must be dealt with at source — excessive domestic absorption, particularly consumption.

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