

### **2.1 The Financial Crisis**

Since the East Asian financial crisis in 1997, numerous studies have been conducted on the causes of the crisis. For many economists and analysts, the Asian economic crisis began with the free flow of funds moving in and out of the affected countries. When these countries introduced capital account convertibility, that is, allowing autonomous inflows and outflows of funds by foreigners and locals, they exposed their local currencies to speculative attacks as well as exchange rate volatility. As stated by Khor (1998), the East Asian crisis was sparked by speculation and a stampede of foreign funds moving out, followed shortly by locals also sending their money abroad. The consequence was that the value of the local currencies fell sharply.

The IMF's 1998 survey argued that the key factors that left East Asian countries vulnerable to a shift in market sentiment were (1) exceptionally high leverage (as measured by the ratio of debt to equity in corporate entities), which was a symptom of excessive risk taking; (2) banking systems that were undercapitalized, had relaxed lending standards, and were subject to weak supervision and regulation; (3) a reliance on short-term cross-border interbank funding; (4) weak central banks that were subject to excessive political interference; and (5) excessive reliance on banks as the primary source of financial intermediation.

In their study on "Capital Flows and the Twin Crisis", Goldfajn & Valdes (1997) indicated that the existence of capital flight against the intermediaries (for example, bank and financial institutions) generated a sudden demand for reserves that might force a devaluation of the currency, independently of the fiscal policy followed by the government.

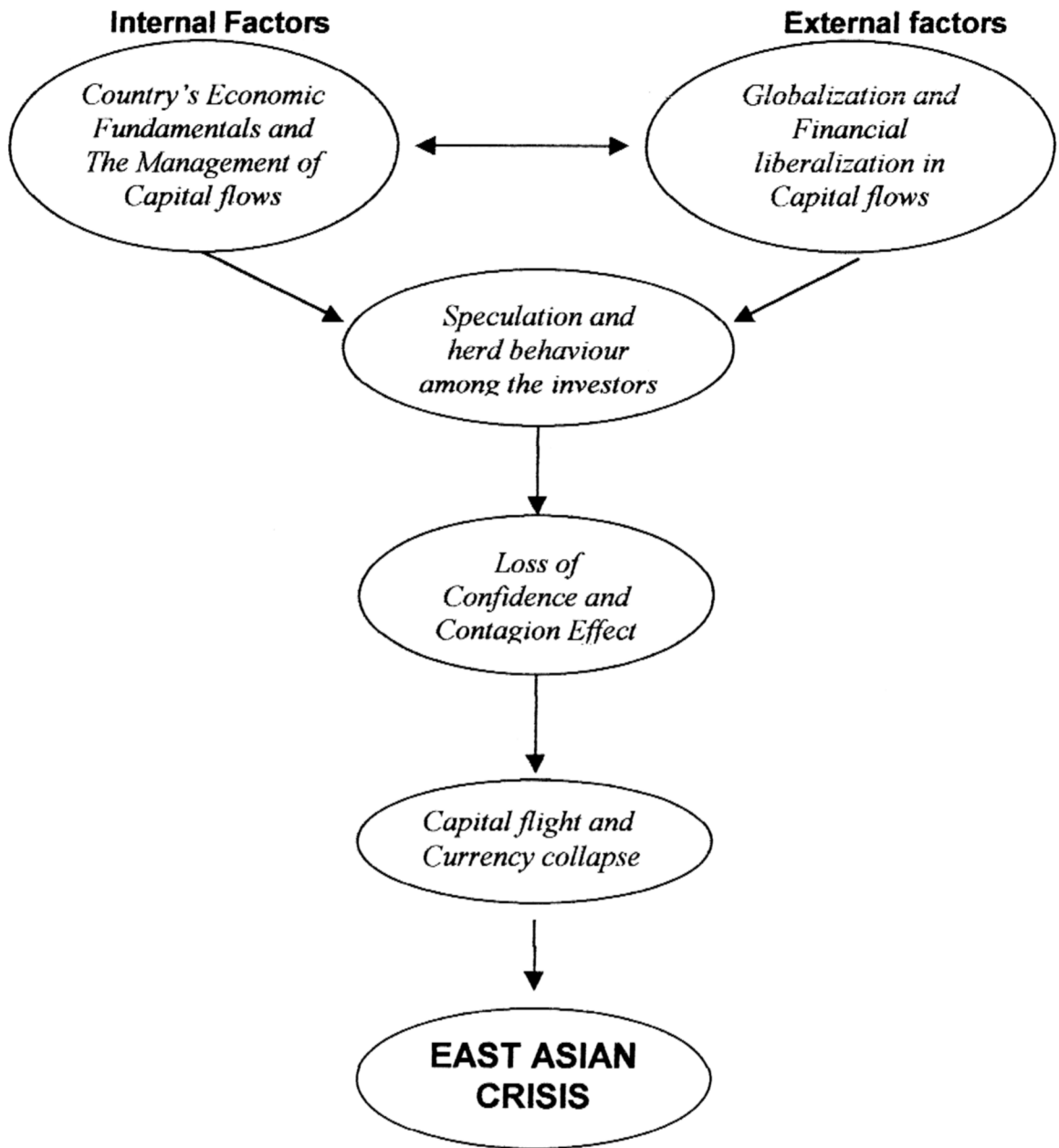
In the other direction, an expected devaluation of the currency would change the return profile of the investment, increasing the benefits of early withdrawals and, therefore, increasing the risk of a collapse.

However, according to Stuart Eizenstat, the US Under-Secretary for Economic Affairs, the market movements were not “dominated” by currency speculators and that consistent, sound policies were the most important foundations for financial market stability (Carse,1995). Nicholas Burns, the spokesman for the US State Department added that currency problems could almost always be traced to the policies of the governments involved or to economic forces that happen to be at play (Carse,1995).

Despite the voluminous discussion on the crisis and the rescue rendered, the general consensus is that: the free fall of these currencies were due mainly to the huge capital flight; which was caused by the liberalization of international financial markets and the loss of investors' confidence in the weakening economic fundamentals in the affected countries( IMF,1998).

If the whole incidence could be summarized and diagramatized, the root causes of the crisis would appear as Figure 1. Figure 1 sets the background for this chapter. The rest of the chapter argues that the analysis for this study cannot be carried out in isolation of capital controls. Therefore, the literature review is extended to areas such as capital account liberalization, capital flows and exchange rate policies, which were highly related to the causes of the recent East Asian currency crisis.

**Figure 1: Root causes of the East Asian Crisis**



*Source: The IMF, 1998*

## **2.2 Surging Capital Flows**

### **2.2.1 The Changing Trends in Capital Flows**

Global capital flows had been modest in the 1980s after the Latin American debt crisis and the flows were mainly amongst developed countries, with Japan and Germany being the major capital exporters and the US, the principal capital importer (Carse,1995). However, the situation changed markedly at the beginning of the 1990s. The global private capital flows surged substantially, in particular to developing countries (Kwan,1998).

In 1996, total net capital flows to Asian economies reached US\$110.4 billion, almost six times the amount in 1990 (Carse,1995). The East Asian countries that were hit by the currency crisis recorded a high capital inflow of US\$62.9 billion and US\$72.9 billion in 1995 and 1996 respectively right before the out break of the currency crisis. The financial crisis marked 1997 as the first year in the 1990s of a significant reduction in the net private capital flows to these markets (Table 2). Of importance to take note is, much of this growth took the form of increased portfolio flows which rose from only US\$1.3 billion in 1990 to US\$17.9 billion in 1993, that is, more than half of the overall total capital inflow into the affected East Asian countries. The data in Table 2 shows that portfolio investments grew even faster than direct investments. As of 1993, the composition of capital flows to the affected countries in East Asian was 26% direct investment, 55% portfolio investment, and 19% other types of capital flows (Khor,1998 and Carse,1995).

The concern over such changing trends is that large volumes of these mobile funds would provide fertile ground for speculators and arbitrageurs to seek profit from distortions in these markets and economies (IMF,1998).



**Table 2: Private Capital Flows to Emerging Market (in billions of US dollar)**

	1990	1991	1992	1993	1994	1995	1996	1997
<b><u>Emerging Markets</u></b>								
Total net private capital inflows <sup>1</sup>	31.0	126.9	120.9	164.7	160.5	192.0	240.8	173.7
Net foreign direct investment	17.6	31.3	37.2	60.6	84.3	96.0	114.9	138.2
Net portfolio investment	17.1	37.3	59.9	103.5	87.8	23.5	49.7	42.9
Other	-3.7	58.4	23.8	0.7	-11.7	72.5	76.2	-7.3
Net external borrowing from official Creditors	22.2	25.7	17.6	18.7	-2.5	34.9	-9.7	29.0
Total Net Capital Inflows	53.2	152.7	138.5	183.4	158.0	226.9	231.1	202.7
<b><u>Africa</u></b>								
Total net private capital inflows	-1.9	1.7	-2.0	4.0	10.6	13.8	4.5	8.9
Net foreign direct investment	1.2	2.2	1.8	2.0	3.6	4.2	5.3	7.7
Net portfolio investment	-1.5	-1.6	-0.7	0.9	0.5	1.4	-0.3	2.6
Other	-1.6	1.1	-3.2	1.1	6.5	8.1	-0.6	-1.3
Net external borrowing from official Creditors	7.7	6.3	10.8	5.3	8.1	5.2	6.5	8.4
<b><u>Asia</u></b>								
Total net private capital inflows	19.1	35.8	21.7	57.6	66.2	95.8	110.4	13.9
Net foreign direct investment	8.9	14.5	16.5	35.9	46.8	49.5	57.0	57.8
Net portfolio investment	-1.4	1.8	9.3	21.6	9.5	10.5	13.4	-8.6
Other	11.6	19.5	-4.1	0.1	9.9	35.8	39.9	-35.4
Net external borrowing from official Creditors	5.6	11.0	10.3	8.7	5.9	4.5	8.8	28.6
<b><u>Affected countries' net private capital Inflows<sup>2</sup></u></b>								
	24.9	29.0	30.3	32.6	35.1	62.9	72.9	-11.0
Net foreign direct investment	6.2	7.2	8.6	8.6	7.4	9.5	12.0	9.6
Net portfolio investment	1.3	3.3	6.3	17.9	10.6	14.4	20.3	11.8
Other	17.4	18.5	15.4	6.1	17.1	39.0	40.6	-32.3
Affected countries' net external Borrowing from official creditors	0.3	4.4	2.0	0.8	0.7	1.0	4.6	25.6
<b><u>Middle East and Europe</u></b>								
Total net private capital inflows	0.2	65.7	38.0	26.6	17.9	16.9	24.2	25.4
Net foreign direct investment	1.0	1.3	1.0	3.9	4.3	3.7	2.6	3.3
Net portfolio investment	2.6	22.3	20.9	15.4	13.2	8.8	9.2	8.2
Other	-3.4	42.2	16.1	7.3	0.5	4.4	12.4	13.9
Net external borrowing from official Creditors	-5.9	3.9	-1.4	2.1	-1.5	-5.2	-6.1	-1.5
<b><u>Western Hemisphere</u></b>								
Total net private capital inflows	10.1	26.1	56.0	64.3	47.4	35.7	80.5	91.1
Net foreign direct investment	6.7	11.0	13.6	12.8	24.3	25.3	36.9	51.2
Net portfolio investment	17.5	14.7	30.4	61.1	60.6	-0.1	25.2	33.5
Other	-14.0	0.3	12.0	-9.5	-37.5	10.5	18.5	6.5
Net external borrowing from official Creditors	7.5	2.8	-2.0	-0.4	-4.0	22.0	-13.4	-7.3

Source: IMF, International Financial Statistics and World Economic Outlook database.

<sup>1</sup> Net foreign direct investment plus net portfolio investment plus net other investment

<sup>2</sup> Indonesia, Korea, Malaysia, the Philippines and Thailand

### **2.2.2 The Behavior Of Foreign Direct Investment (FDI) And Foreign Portfolio Investment (FPI)**

In general, portfolio investments tend to be short-term. The portfolio investors normally gain returns through interest payments, dividends, and most often through buying and selling of these portfolios (Carse, 1995 and Khor, 1998). The nature of this investment, therefore makes FPI more sensitive to changes in market sentiment and international financial conditions, hence more volatile.

The World Bank's recent research (1995) on "Managing Capital Flows in East Asia" found that portfolio investment posed its own problems, which varied depending on whether the instrument was placed abroad or in the domestic capital market. Portfolio investment placed abroad might act more like direct investment if the resulting inflow was used for new investment.

Portfolio investment that goes directly into the domestic capital market may be more worrisome, as it can lead to asset inflation and thus tend to reduce domestic saving rather than to increase investment. It is also more likely to affect the exchange rate and to be volatile because it is much more liquid and more sensitive to short-run external factors such as interest rate movements (World Bank, 1995).

On the other hand, FDI investors who seek returns through the running of a successful enterprise will tend to hold the investment for a relatively longer term when compared with FPI investors. In addition, to the extent that FDI entails physical investment in plant and equipment, it is difficult to reverse (World Bank, 1995). Hence, FDI flows, by their nature, tend to be "long(er) term," in that they are driven by positive longer-term sentiment and, therefore, more likely to be "stable and less volatile" compared with "short-term" portfolio flows (Kwan, 1998).

FDIs are always more preferred as they would increase a country's production capacity and thus aggregate supply, which is of great importance for the country to curb with upward pressure on real exchange rates that always come with the sustained increase in the inflows of funds (Kwan, Vandenbrink and Chia, 1998).

### **2.2.3 Pull and Push Factors that influence the Influx of Capital Inflows**

Theoretically, the decision to invest internationally rests on the expected rate of return on the international asset compared to domestic alternatives. If the expected rate of return were greater abroad than at home, one would expect domestic residents to invest abroad. If the expected rate of return on home assets were higher than that on foreign assets, foreigners would be expected to invest in the home country. If there are no barriers to investment flows, funds should move from areas of low return to areas of high return until the expected returns are similar (Appleyard & Field, 1995).

However, it is not quite that simple since there is a major difference between the domestic investment and the foreign alternative. The total return on the foreign asset to a potential home country investor includes not only the specific return on the asset in question, but also any return associated with appreciation of the foreign currency against the home currency during the time of the investment (or loss if the foreign currency depreciates against the home currency) (Copeland, 1994).

According to Appleyard and Field (1995), investors would consider three elements when deciding whether to invest in the home country or in a foreign country : firstly, the domestic interest rate or expected rate of return, secondly, the foreign interest rate or expected rate of return

and thirdly, any expected changes in the exchange rate. In short, investments are not only influenced by interest rates, but also exchange rates.

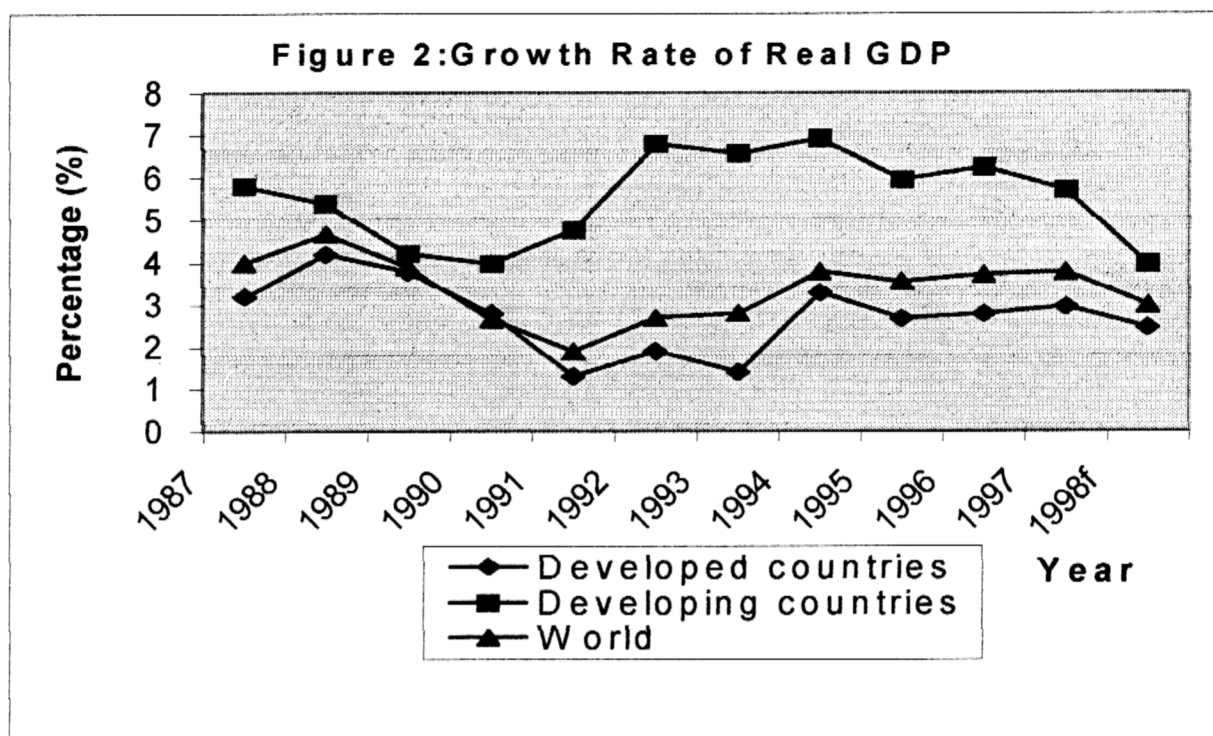
According to Carse (1995), Stiglitz (1997) and the World Bank (1995), the push and pull factors for the rapid growth of capital flows to the developing countries in the early 1990s were:

Firstly, economic growth in developing countries has been on the upswing in the 1990s and it was expected to remain significantly stronger than in industrial countries. This better economic performance and underlying policy improvements has enhanced the creditworthiness of major recipients of private capital and made the developing economies, especially the East Asian economies more attractive. Between 1987 and 1996, the average annual GDP growth rate in East Asia ranged from about 7% to 9.5% with only the Philippines having a lower growth rate of less than 5%. Stronger growth, relatively lower inflation and fiscal deficits in these developing economies have provided a powerful incentive to the investors (Table3). On the contrary, the major developed economies were generally in the downturn of their economic cycles in the early 1990s (Figure2). Slow economic growth, weak consumption and investment demand coupled with low interest rates encouraged global funds to diversify their investments in search of greater returns.

**Table 3: Key economic indicators in selected developing countries**

	<b>Average real GDP growth rate (%) from 1987-1996</b>	<b>Average annual inflation rate (%) from 1987- 1996</b>	<b>Average fiscal deficits as a percentage of nominal GDP from 1987-1996</b>
<b>East Asia</b>			
<b>Indonesia</b>	6.9	8.4	-0.5
<b>South Korea</b>	8.4	6.0	0.1
<b>Malaysia</b>	8.4	3.2	-1.6
<b>Philippines</b>	3.7	10.0	-1.4
<b>Thailand</b>	9.5	4.8	2.2
<b>Rest of Asia</b>			
<b>India</b>	5.9	16.6	-6.9
<b>Pakistan</b>	5.2	9.7	-7.2
<b>Sri Lanka</b>	4.5	12.2	-8.4
<b>Latin America</b>			
<b>Argentina</b>	2.8	608.3	-0.9
<b>Brazil</b>	1.9	1099.5	-4.9
<b>Chile</b>	7.2	15.6	1.7
<b>Columbia</b>	4.2	25.1	-0.7
<b>Mexico</b>	2.0	41.7	-0.1
<b>Peru</b>	1.7	1220.3	-3.5

*Sources : Economist Intelligence Unit and Datastream*



**Source :** *International Monetary Fund*

Secondly, apart from strong Asian economic growth and the investors' risk aversion behavior, financial liberalization and economic reform in the emerging markets have also aided in attracting incoming capital (Carse,1995). Reforms included: reducing government controls over private economic activities; adoption of stable exchange rate regimes either in the form of fixed exchange rates, currency board system or managed float backed up by appropriate monetary policies; privatization of state-owned enterprises; lowering or removal of import tariffs; institutional reform in the capital markets; liberalization of the capital account; and the removal of direct controls on the banking system.

### 2.3 Significance of Capital Mobility

Back in the 1890s and 1900s international capital flows were of great benefit to the world. Flows of money and investment from the center to the periphery of the world economy allowed investors in the capital-rich core to earn higher rates of return than they would have otherwise, and

allowed workers in the resource-rich periphery access to the fixed and working capital they needed to multiply their productivity and hence their wages (DeLong, 1998).

In the 1990s and till today, the international capital flows play even a much greater and important role than in the 1890s and 1900s, particularly with the progressive relaxation of capital controls resulting from globalization, financial liberalization and integration (DeLong, 1998). Carse's (1995) opinion is that, the effect of capital mobility has been to bind financial markets around the world even more tightly into the global market place. While this has brought major benefits to the recipient countries, it has also left them more exposed to external shocks, for example, the financial intermediaries through which the flows take place are subjected to greater risks.

The World Bank (1995) has pointed out that capital flows themselves are not monolithic, but they represent a variety of different instruments, maturities, and risks to the country. It is the substantial changes in these instruments underlying the capital flows that have important implications for policymaking. At the macro level, large external flows can affect an economy's competitiveness, saving, and investment performance, expose it to external shocks, and ultimately reduce its degree of policy independence from the rest of the world. At the micro level, sustained capital inflows can have profound effects on the policies of the financial, industrial and other sectors, on the shape and regulation of domestic capital markets, and even on the extent and form of government activity in the economy (Carse, 1995).

### **2.3.1 The Positive Effects of Capital Inflows**

Economic theory argues that international capital mobility allows countries with limited savings to attract financing for productive

domestic investment projects, that it enables investors to diversity their portfolio, spread investment risk more broadly, and promote inter-temporal trade, that is, the trading of goods today for goods in the future (Eichengreen, Mussa, Dell'Ariccia, Detragiache, Milesi-Ferretti and Tweedie, 1999). In other words, in a highly integrated international capital market, domestic savings and investment need not be tightly linked, since domestic investors can rely on external financing. Access to international financial markets and the free flow of capital offer some clear-cut benefits by providing additional sources of financing and investments to the domestic economy (Rivera-Batiz, 1989). As such, many economists presume that this freedom of capital movements is highly desirable for promoting the efficient international allocation of resources and savings ( Delong, 1998).

Stiglitz (1997) highlighted that the direct advantages of capital flows are twofold: the recipient countries can tap the growing pool of global capital to raise investment, and they can diversify risks and smooth the growth of consumption and investment. The more important benefit of capital inflow especially in the form of FDI, however, is likely to be indirect, that is it allows knowledge spill-overs to the developing countries.

Similar views are also noted from the World Bank report (1995), which listed the potential benefits brought by Foreign Direct Investment and/ or Foreign Portfolio Investment. These potential benefits are:

- i) Additional resources available for productive investment
- ii) Risk sharing with the rest of the world
- iii) Greater external market discipline on macroeconomic policy
- iv) Transfer of technology or enhanced access to technology skills
- v) Market access enlargement, that is, broader access to export markets through foreign partners
- vi) Management skills enhancement, training and broader exposure of national staff



- vii) Greater liquidity to meet domestic financing needs
- viii) Broadening and deepening of national capital markets
- ix) Improvement of financial sector skills

### **2.3.2 The Negative Effects of Capital Inflows**

Contrary to the above discussion, critics of open capital markets argue that capital mobility is rather inefficient and problematic. The nature of capital movements that reflect the willingness of investors to take greater risks in exchange for high potential return often induce speculation and cause volatility in the market (Schuknecht, 1999)

According to Kwan, Vandenbrink and Chia (1998), a sustained increase in the inflow of funds could weaken the export competitiveness of the host country by pushing up its real exchange rate through either an appreciation of the nominal exchange rate or higher inflation. This is analogous to the so-called “Dutch disease”<sup>3</sup>, in which the discovery of some natural resource, such as oil, tends to drive up the real exchange rate and cause the domestic manufacturing sector to shrink.

In regards to the argument that capital mobility promotes efficiency in resource allocation, Cooper (1999) raised three important circumstances in which free capital movements would not improve the allocation of capital. The first circumstance is when trade is not fully open. If a developing country with abundant labor protects its capital –

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<sup>3</sup> In this model, it explained that by lowering interest rates and boosting the money supply, inflow of funds similarly pushes up domestic demand and the real exchange rate. The appreciation of the real exchange rate in turn increases the production of non-tradable goods (services) at the expense of tradable goods (manufacturing). The reverse takes place when the resulting deterioration in the current account balance prompts foreign investors to withdraw their funds.

intensive industries, such as steel and automobiles, additional foreign investment can misallocate capital and even reduce national income. The second circumstance arises from capital taxation. If capital income is not taxed uniformly across countries, open capital markets can misallocate investment, directing capital to where it pays the least tax rather than to where it will be put to best use, and can encourage tax evasion. A third source of misallocation derives from the fact that not all capital flows are driven by well-informed judgments about where the returns to capital are highest. Some are governed by herd-like behavior on the part of investors and speculators. The presence of such an element in capital flows distort allocation and can even destabilize exchange rates and the financial system. This is similar to what has happened during the 1997 East Asian currency crisis.

Research conducted by the World Bank (1995) and the IMF(1998) have concluded that large inflows of capital posed the potential danger of :

- i) Disruption of national capital markets, increased volatility in financial and exchange markets, particularly when the inflows are dominated by FPI;
- ii) Asset price inflation, especially in the property and stock markets, with a risk of bursting of the bubble if the inflows are reversed;
- iii) Currency appreciation or real appreciation of the exchange rate;
- iv) Lowering domestic saving;
- v) Reducing the scope for independent macroeconomic policy actions;
- vi) Exposing the nation to greater external shocks;
- vii) Creating higher demands for protection in local markets;
- viii) Some loss of control of foreign-owned domestic industry and
- ix) Higher sterilization costs

According to the IMF (1998) and the World Bank (1995), the consequences or impact of capital flows depends highly on the volume of flows, the macroeconomic policy framework, the microstructure of the flows, and incentives in the financial sector. The more an economy can direct capital flows into increased productive investment, the less effect the flows will have on interest and exchange rates.

## **2.4 Capital Flight**

Generally, there is strong agreement that economic growth in the East Asian countries during the 1990s and prior the crisis was due to the surges in capital inflows (Carse, 1995). While capital mobility can help to push economic growth in a country via inflows of capital, it can also cause economic decline when there is capital flight, as evidenced in the recent East Asian currency crisis (Khor,1998). Some observers have argued that capital flight in East Asia was mainly caused by (irrational) herding behavior among the investors (Corbett and Vines,1998).

However, numerous studies pertaining to capital flight suggest that the main risks of volatility and large reversals of capital lie at the individual country level and stem from the interaction of domestic conditions and policies with international factors. (Stiglitz, 1997 and IMF 1997). According to Goldfajn and Valdes(1997) and IMF (1997), when there is an anticipation of a devaluation of a currency in a country caused by the country's macroeconomics imbalance, it produces strong incentives for a capital reversal from the central bank. Therefore, capital flight is mainly due to the erosion of confidence in a country's economic health.

Generally, countries are likely to suffer a loss of investor confidence when the real exchange rate is perceived to be out of line, the

government's debt obligations are large in relation to its earning capacity and external reserve position, fiscal adjustment is perceived to be politically or administratively infeasible, or the country's growth prospects are bleak. (Stiglitz, 1997)

Based on research carried out by Hernandez and Rudolph (1995), a generalized reversal of capital flows is unlikely in countries that maintain a fundamentally sound macroeconomic environment. Their empirical results show that under the pull hypothesis (where inflows are induced by internal factors, for example, the strong economic growth of the country), successful domestic policies are the key to ensuring sustainable capital inflows. Under the push hypothesis (where inflows are motivated by external factors, for example, the drop in foreign interest rates), an increase in international interest rates would cause a reversal of those flows (back to the industrial world).

Hence, financial crises are also connected to large shifts in macroeconomic condition external to countries where the crisis originated, for example international interest rates. External factors are as important as domestic ones in triggering both capital inflows and capital outflows (Raghavan, 1998)

## **2.5 Managing Capital Flows**

### **2.5.1 An Overview on the Various Instruments for Managing Capital Flows**

Haque, Mathieson and Sharma (1997) have highlighted that, basically, countries have three instruments at their disposal to deal with the possible effects of large capital inflows, that is, sterilized intervention, fiscal tightening, and exchange rate appreciation. In their view, the appropriate policy for managing capital flows will be determined not

only by the pull and push factors of capital inflows but also by the degree of flexibility allowed by the domestic institutional structure and the existing policy stance.

Interestingly, Kwan (1998) holds a fairly different view and reports that the optimal policy response for capital flows differs depending on whether the capital inflows are temporary or sustainable over the long term. It is found that in the case of short-term speculative inflows, sterilized intervention to stabilize both the exchange rate and money supply is desirable. At the same time, widening the band for exchange rate fluctuations should enhance the effectiveness of monetary policy while deterring speculative inflows. In the case of sustained inflows, the resulting appreciation of the real exchange rate can take the form of higher inflation or currency appreciation. The optimal trade off will depend on the policy objective (preference for price stability and external balance) and on the economic structure (openness of capital and goods markets) of the country concerned.

Nevertheless, Haque's (1995) study found that a country's ability to sterilize the effects of capital inflows may be limited if suitable instruments are not available to the central bank and if domestic financial markets are not sufficiently developed. It may also be limited if previous intervention by the central bank has produced a large quasi-fiscal deficit, that is, the difference between the interest earned on foreign exchange reserves and the costs of financing the sterilization.

The World Bank (1997) has pointed out that governments can sterilize the flows through monetary intervention but it would usually be done at some cost. This practice has generally proven difficult to sustain, but it can provide some leeway during which other policies can be put in place. Obstfeld's and Rogoff's (1995) also found that sterilized intervention can do little, if anything, to break the tight link between monetary policy and the exchange rate.

According to Caramazza's and Aziz (1998), sterilization operations tend to work at best only in the short term for the following reasons: First, sterilization prevents domestic interest rates from falling in response to the inflows and, hence, typically results in the attraction of even greater capital inflows. Second, given the relatively small size of the domestic financial market compared with international capital flows, sterilization tends to become less effective over time. Finally, fiscal losses from intervention, arising from the differential between the interest earned on foreign reserves and that paid on debt denominated in domestic currency, will mount, so sterilization has a cost.

In regards to using tight fiscal policy to manage capital flows, Haque (1997) found that, fiscal policy is somewhat unwieldy for short-term demand management. This is largely due to lags associated with the formulation and implementation of specific measures.

On the other hand, the third instrument, that is, exchange rate appreciation is found less acceptable and favorable due to the fear that it may make a country's products and exports less competitive (Haque, 1997).

Due to the inefficiency and insufficiency of these (conventional) instruments in managing the capital flows, many policy-makers and economists have argued that (temporary) capital controls are needed to stabilize the economy and reduce the overheating effects caused by the free flow of capital. Without controls or regulations, capital mobility, particularly portfolio investment would play a destabilizing role in economic development and open the nations to speculative invasion from the outside ( Ranney, 1998).

## **2.5.2 Capital Controls**

Many arguments have been advanced in the literature to justify the use of capital controls. Among these are, capital account restrictions improve economic welfare by compensating for financial market imperfections, including those attributable to informational asymmetries. In other words, the objective of capital controls is to manage the various risks associated with capital flows (Ariyoshi, Habermeier, Laurens, Robe, Canales-Kriljenko, & Kirilenko, 1999)

Other justifications put forward for the implementation of capital controls are: capital controls may help to reconcile conflicting policy objectives when the exchange rate is fixed or heavily managed. For instance, preserving monetary policy autonomy by directing the monetary policy toward domestic objectives, may reduce pressures on the exchange rate. An additional, but related motivation for capital controls has been to protect monetary and financial stability in the face of persistent capital flows, particularly when there are concerns about: (i) the inflationary consequences of large inflows, or (ii) inadequate assessment of risks by banks or the corporate sector in the context of a heavily managed exchange rate that, by providing an implicit exchange rate guarantee, encourages a build-up of unhedged foreign currency positions (IMF, 1997).

In terms of managing or preventing capital outflows, capital controls at times serve as an alternative to the prompt adjustment of economic policies and thus help the authorities “buy time” to limit downward pressure on their currencies (Ariyoshi, Habermeier, Laurens, Robe, Canales-Kriljenko and Kirilenko, 1999) and making banking sector reform easier, especially during a crisis when it is difficult to organize a large-scale bank restructuring exercise when extra liquidity leaks out of the country. (Eichengreen, Mussa, Dell’Ariccia, Detragiache, Milesi-Ferretti & Tweedie, 1999).

Many observers have pointed to China and India as examples of countries that have not been fully caught in the regional crisis and subjected to volatile capital flows and currency instability or speculation, because the two countries do not allow full convertibility of their currencies. Although the local currency can be converted for trade and direct investment purposes, there are restrictions and regulations for changing local currency to foreign exchange (and vice versa) for other purposes. Hence, the lesson from these countries is that developing countries that want to shield themselves from externally-generated financial crises should retain (or regain) some controls over the convertibility of their currencies (Khor, 1998)

Although capital controls appear to be effective in some countries, it is difficult to be certain of their role given the problems involved in disentangling the impact of the controls from that of the accompanying policies, which include the strengthening of prudential regulations, greater exchange rate flexibility, and adjustment in monetary policies. (Alesina, 1993; Ariyoshi, 1999 and Banerjee, 1998).

Kwan's (1998), findings from various studies showed that the introduction of ad hoc restrictions on capital flows may not be desirable for the following reasons: First, it is difficult to distinguish speculative funds from funds that are linked more directly to productive activities, for instance, FDI. Moreover, it has also proven difficult to distinguish in an economically meaningful way between long-term and short-term capital flows. Short-term loans are often rolled over repeatedly; while long-term instruments can be often sold at short notice in secondary markets. This applies even to foreign direct investment when the investor can borrow against his collateral and short the currency. Derivatives markets, including those of swaps and options, open up many additional avenues for changing the effective maturity of foreign direct investments. The extent to which the distinction between short – term and long-term flows is erased depend primarily on the level of



development of a country's financial markets, which is affected by government regulations, including capital controls (IMF, 1997).

According to Ariyoshi (1999) and DeLong (1998) regardless of whether capital controls are effective, their use (or re-imposition) may entail some costs. First, restrictions on capital flows, particularly when they are comprehensive or wide-ranging, may interfere with desirable capital and current transactions along with less desirable ones. Second, controls may entail nontrivial administrative costs for effective implementation, particularly when the measures have to be broadened to close potential loopholes for circumvention. Third, there is also the risk that shielding domestic financial markets by controls, may postpone necessary adjustments in policies or hamper private-sector adaptation to changing international circumstances. Fourth, controls may give rise to negative market perceptions, which in turn can make it costlier and more difficult for the country to access foreign funds.

Kwan's (1998) and Haque's (1997) observation show that capital controls may provide some temporary protection against volatile capital flows, but to be effective such controls would generally have to be wide-ranging. If capital controls are in place for a long time, they tend to become less effective with respect to flows and may hinder the development of the financial system and are potentially distortionary to the allocation of financial resources.

While the capital controls in both China and India are believed to have been effective in limiting measured capital flows, there also seems to be some evidence of evasion and avoidance, for example, through the mis-invoicing of trade transactions, or large errors and omissions in the balance of payments statistics. In both countries, the extensive restrictions gave rise to significant administrative costs, which may burden legitimate transactions, and may have reduced the efficiency of resource allocation (Ariyoshi, 1999)

In their research, Alesina, Grilli and Milesi-Ferretti.G (1993) found that there are no effects of capital controls on growth. Nevertheless, they reject strongly the hypothesis that capital controls reduce growth.

Khor (1998) argues that capital controls have merit in dealing with financial crisis, but in themselves, they are inadequate to strengthen a country's economic fundamentals and prepare the country from future economic shocks.

## **2.6 Exchange Rate Regimes**

### **2.6.1 The General Perception**

The early literature on the choice of exchange rate regimes, took the view that the smaller and more "open " an economy (that is, the more dependent on exports and imports), the better it would be served by a fixed exchange rate regime (Boschee, 1996). The later literature on the choice of exchange rate regimes, however, looked at the effects of various random disturbances on the domestic economy. In this framework, the best regime is the one that stabilized macroeconomic performance, that is, it minimized fluctuations in output, consumption, the domestic price level, or some other macroeconomic variable. Generally, the ranking of fixed and flexible exchange rate regimes depends on the nature and source of the shocks to the economy, policymakers' preferences (that is, the type of costs they wish to minimize), and the structural characteristics of the economy (Caramazza & Aziz, 1998; Daly and Kearney, 1998).

Based on Caramazza's and Aziz's findings (1998), neither of the two main exchange regimes, that is, fixed or flexible ranks above the other in terms of its implications for macroeconomic performance and output growth. Evidence suggests that, misalignments and currency "crashes"

were equally likely under pegged and flexible exchange rate regimes. Their conclusions are whatever exchange rate regime a country pursues, long-term success depends on a commitment to sound economic fundamentals and a strong banking sector.

Boschee (1996), on the other hand, pointed out that there are four main proposals for the management of international currency exchange rates: monetary unification, fixed rates, floating rates maintained within certain "reasonable" limits of variability and freely floating rates. Both fixed exchange rates and rates based on either explicit or unwritten targeting are found to be impossible to maintain, especially in an era of free trade. Complete monetary unification would be impossible to bring about without extensive integration and unification of international governments and economies, a task so vast that it is unlikely ever to be accomplished. Thus, the only option central banks have is to allow exchange rates to float freely.

Other advocates of floating exchange rates also based their case on the proposition that free markets and flexible exchange rates have a compelling virtue and tend to allocate resources efficiently, whereby they automatically adjust and eventually eliminate balance of payment deficits or surpluses. For example, a country in an economic downturn that experienced domestic investment and production decline, unemployment rises, income and consumption falter. The weak economy also drives the price of the country's currency down. This decline, in turn, lowers the price of its exports, stimulating foreign demand and helping offset the decline in domestic demand. In this way, floating rates tend to act automatically as economic stabilizers (Boschee, 1996; Rolnick & Weber, 1989).

In addition, due to the fact that floating rates are based on supply and demand, they have the unique ability to adjust along with changes in taste, relative incomes, relative prices, relative real interest rates, and

speculation (Smith, 1996). Caramazza and Aziz (1998) also argue that if disturbances are predominantly real in a country, such as changes in tastes or technology that affect the relative prices of domestic goods or originate abroad, a flexible rate would be more preferable.

Under a floating rate system, it is deemed that both monetary and fiscal policies in each country can freely respond to domestic economic problems while international currency markets determine the appropriate level of exchange rates. Policy independence would also let each country choose the average rate of money supply growth to help meet its government's need for revenue. (Rolnick & Weber, 1989; Goldfajn & Valdes, 1997).

Many of the proponents of floating rates admit that there are problems with variability in exchange rates, but they argue that the markets have come up with instruments to deal with these variabilities, for example, currency options and futures markets (Daly and Korearny, 1998; Devereux and Engle, 1998). In effect, by using puts and calls, businesses are able to buy insurance on their transactions with other countries. Through the futures market, speculation is able to add stability and help promote international trade (Smith, 1996). They believe that under flexible exchange rate regime, the exchange rate is tied to economic fundamentals and since these fundamentals tend to change slowly, they expect exchange rate fluctuations to be modest or at least fairly predictable (Rolnick and Weber, 1989).

Flexible exchange rate advocates find that governments will not and cannot stick to pegged or fixed rates. This is due to the fact that maintaining targeted or fixed rates requires a consistent and fairly uniform monetary policy among nations. There are many reasons why national governments will not consent to this, the foremost being that different countries want different things, different economies have different needs and different governments have different policies. In

addition, many nations are in different stages of their overall economic cycles. Many countries thus cannot afford to subscribe to a uniform monetary policy. For a country that would otherwise have had low interest rates, for example, raising them could be both economically counterproductive and politically disastrous. (Boschee, 1996; Goldfajn and Valdes, 1997)

In addition, a fixed exchange rate regime is very costly for a government to maintain if the economy is not functioning successfully and the government's promises not to devalue suddenly lacks credibility. It has become increasingly difficult to maintain credibility with financial market liberalization (Obstfeld and Rogoff, 1995). For example, maintaining interest rates at very high levels to defend the exchange rate may over time undermine the credibility of the peg, especially if it has damaging effects on real activity or the health of the banking system (Caramazza and Aziz, 1998). The confidence in the system has to be absolute or else pessimistic, self-fulfilling speculation will cause the collapse of the system, hence leading to the unsustainability of the pegged rate (Boschee, 1996). The collapse of the Bretton Woods system and the unsustainability of the European Monetary System<sup>4</sup> in 1993 are always quoted as evidence of the fragility of the fixed exchange rate system. The fundamental problem with a fixed exchange rate is that the government must be prepared to forgo completely the use of monetary policy for stabilization purposes and fixed rates must be set to disallowing the inevitable changes in the supply and demand of currencies. (Smith, 1996; Obstfeld & Rogoff, 1995)

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<sup>4</sup> There was an attempt to fix exchange rates within certain tight bands, to coordinate monetary policy between member nations and to have central banks intervene to keep exchange rates within the bands when necessary. The reasons for the collapse were mainly attributed to Germany, dealing with financial problems in part arising from its reunification, refused to lower its high interest rates. This meant other European countries either had to deepen their rates equally high and allow themselves to fall into recession as a result, or devalue their currency against the market, a move viewed by many as a political embarrassment. The possibility of a devaluation caused speculators to bolt from the lira, the pound, the franc and other currencies, sending the markets into chaos and destroying all semblance of stability (Boschee, 1996).

Conversely, opponents of the free floating rate argue that free floating rates, combined with capital mobility, would undermine currency stability, with attendant consequences for trade, investment and growth. In general, a fixed exchange rate regime (or a greater degree of fixity) is preferable if the disturbances impinging on the economy are predominantly monetary such as changes in the demand for money, which affect the general level of prices. (Rolnick and Weber, 1989; Apergis, 1998; Caramazza and Aziz, 1998).

A pegged exchange rate regime provides an unambiguous objective “anchor” for economic policy to establish the credibility of a program to bring down inflation. In a fixed regime, monetary policy must be subordinated to the requirements of maintaining the peg. This in turn means that other key aspects of policy, including fiscal policy, must be kept consistent with the peg, effectively “tying the hands” of the authorities. So long as the fixed rate is credible (that is, the market believes it can and will be maintained), expectations of inflation will be restrained (Obstfeld and Rogoff, 1995; Caramazza and Aziz, 1998).

In his research, Edward’s (1996) showed that the probability that a country would abandon the peg is influenced by:

- i) the countries’ yearly lagged ratio of international reserves to high-powered money. Higher reserves reduce, with other things given, the probability of abandoning the peg.
- ii) the rate of growth of domestic credit. Countries with a higher rate of growth of domestic liquidity will have a lower ability to sustain the peg.
- iii) Index of capital controls. In principle, with other things given, a country with more extensive capital controls will tend to have a smaller probability of abandoning the peg.

- iv) More unstable countries have, with other things given, a lower probability of selecting a pegged exchange rate system.
- v) Countries with a history of inflation will have a lower probability of maintaining the peg, and will thus tend to favor the adoption of a more flexible system.
- vi) Countries with a lower growth rate will tend to prefer a more rigid exchange rate regime.

Some suggest that a system of modified floating rates would offer the discipline and greater stability of fixed rates, while at the same time offering the freedom and increased trade of floating rates (Smith, 1996). However, Raghavan (1998) points out that managed floated exchange rate regimes are vulnerable to large accumulations of short-term external debt and to other potentially volatile capital inflows. Even if used flexibly, such regimes are likely to be sustainable only if accompanied by active management of external liabilities, which may often entail recourse to capital controls. In many aspects, the managed floating exchange rate regime (with a target zone and exchange band) is like the fixed exchange rate regime (Obstfeld and Rogoff, 1995).

### **2.6.2 The Effects of Exchange Rates On Capital Flows**

The economic impact of capital inflows and the need, if any, for a policy response are likely to be determined by the forces driving them, as well as by the recipient country's exchange rate regime (Smith, 1996 and Raghavan, 1998).

According to Haque, Mathieson, & Sharma (1997), under a fully flexible exchange rate system, capital inflows (regardless of what is driving

them, that is, push or pull factors) will lead to an appreciation of the recipient country's currency, a drop in the relative price of imported goods, and a shift of consumption away from non-tradables, all of which tend to alleviate inflationary pressures. Therefore, all other things being equal, the more flexible the exchange rate, the less likely it is that capital inflows will have an inflationary effect.

On the contrary, under a managed float or a fixed exchange rate system, whether or not capital inflows create inflationary pressures will depend on whether the inflows reflect, that is, an increase in money demanded for each interest rate level or are due to other factors, such as a drop in international interest rates or an increase in the domestic productivity of capital. It is identified that if capital inflows are due primarily to a sustained increase in domestic money demand, they will not be inflationary. But if they increase for other reasons, the accumulation of foreign exchange reserves will lead, in the absence of sterilization, to expansion of the monetary base, heightened inflationary pressures, and deterioration of the external position.

### **2.6.3 Exchange Rates Regimes, Interest Rates and Its Effects: Implications for the Management of Capital Flows**

Frank (1999) and Carse (1995) revealed that if the objective of a country is to maintain a fixed exchange rate, the government may be obliged to intervene in the foreign exchange market and to sterilize the monetary impact in an attempt to insulate the domestic market from the increase in liquidity that would otherwise result. In other words, to defend a currency peg, the monetary authorities may need enough resources to buy back the high-powered monetary base, equal to deposits at the central bank plus currency. However, this may involve substantial costs arising from the difference between the cost of the debt issued by the monetary authorities and the return earned on the



increased foreign exchange reserves. Moreover, attempts to mop up surplus liquidity can force up interest rates, thus encouraging more inflow.

Hence, it is proposed that if interest rates and monetary policy are “locked” in by an exchange rate anchor, the burden of adjustment to shocks falls largely on fiscal policy, that is government spending and tax policies (Caramazza and Aziz, 1998). In practice, this often means that fiscal policy must be flexible enough to respond to shocks. But, in reality, taxes often cannot be raised or spending cannot be reduced in short order, nor can needed infrastructure investments be postponed indefinitely.

Many have urged to allow the exchange rate to appreciate gradually to accommodate upward pressures and it is pointed out that this would be a safer way of maintaining long-run economic stability, as it enables the exchange rate to adjust in response to capital inflows and provide the policy makers more autonomy in influencing market expectations. In particular, policymakers can make market participants more aware that they face a “two-way” bet, that is, exchange rate appreciation can be followed by depreciation. This heightened awareness of exchange rate risks should discourage some of the more speculative short-term capital flows, thereby reducing the need for sharp corrections (Caramazza and Aziz, 1998).

However, opponents’ argue that: allowing the exchange rate to float upwards or downward when dealing with capital flows will lead to volatility in both the nominal and real exchange rates, which will create problems for the international trade sector and may conflict with the government’s objectives for economic stability. In addition, it is also identified that under a more flexible arrangement, monetary policy may be more independent but inflation can be somewhat higher and more variable (Obstfeld and Rogoff, 1995; Smith, 1996; and Ariyoshi, 1999).