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OPEN ECONOMY AND THE CRISIS

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ABSTRACT

In today's world, no nation exists in economic isolation, all aspects of a nation's economy –its industries, service sectors, levels of income and employment, living standard are linked to the economies of its trading partners. Thus it forms a linkage in international movements of goods and services, labour, business enterprise, investment funds and technology which has favourable and adverse implications on the economies of other countries. The Open Economy model has a high importance in the economic scenario. The paper discusses the fixed and flexible exchange rates and how they are being impacted by the monetary and fiscal policy. Further the paper discusses about capital account convertibility and how we are proceeding towards it. Currency Crisis is the most debatable issue nowadays wherein many countries are impacted by it. Many crisis have happened over the years but in the paper Asian crisis of 1998 has been only discussed.

Keywords: Exchange rates, Currency Convertibility, Exchange rate overshooting, Crisis

INTRODUCTION

An exchange rate is the rate at which one currency is exchanged on another one. This rate differs from country to country and depends on many economical variables, the main of which are the general balance and disbalance of economy, monetary and fiscal policy, the state of the budget,

international policy, the condition and development of the country's economy compared to the world situation and dominating countries, purchasing power of the currency, and other internal and external factors.

The history of world exchange rate systems shows us that the world community (in its majority) has in fact shifted from the system of fixed exchange rates to floating exchange rate system. Currently there exist different combinations of floating and fixed exchange rate systems, together with specific economical instruments, created for exchange rate regulating

Section 1: Exchange Rates

1. **Floating Exchange Rate**

Floating exchange rate is a market-driven price for currency, whereby the exchange rate is determined entirely by the free market forces of demand and supply of currencies with no government intervention whatsoever.

Broadly, the floating exchange rate regime consists of the independent floating system and the managed floating system. Here exchange rate is strictly determined by the free movement of demand and supply. For managed floating system, exchange rate is also determined by free movement of demand and supply but the monetary authorities intervene at certain times to "manage" the exchange rate to prevent high volatilities.

The main advantage of this system is its flexibility and the possibility for the country's economy to be quickly adjusted to changing market conditions. If the balance of payments deficit is violated, the floating exchange rate system allows to adjust a currency outflow or inflow into the country; this automatically makes the domestic goods either more competitive (in case of appreciation on the currency market) or makes foreign goods more competitive (in case of the currency's depreciation). It also automatically determines interest rates within the country. It is believed that this exchange rate system leads to instability on the market and does not stimulate the development of trade and production; floating exchange rates destabilize economical situation and lead to economical crises.

2. Fixed Exchange Rate

For a fixed exchange rate, the government is unwilling to let the country's currency float freely, and they state a level at which the exchange rate will stay. The government takes whatever measures that is necessary to maintain the rate and prevent it from fluctuating. There are two methods which exchange rate could be applied to the price of currencies, a fixed exchange rate and a pegged exchange rate.

Under the fixed exchange rate system, a decrease in the exchange rate which is infrequent are called revaluations. While an increase in the exchange rate are called devaluations. A devaluation in a fixed exchange rate will cause the current account balance to rise, making a country's export less expensive for foreigners and also discourage import by making import products more expensive for domestic consumers,. This will lead to an increase in trade surplus or a decrease in trade deficit. The opposite happens in a revaluation

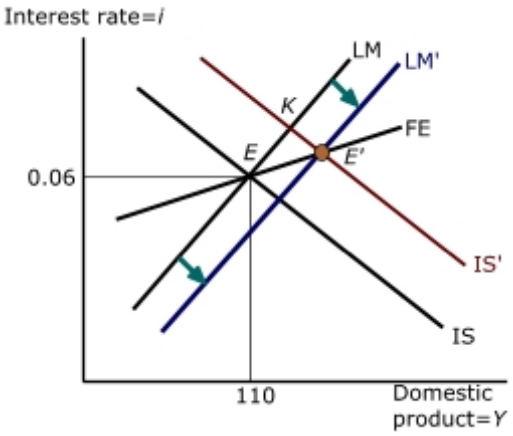
Fixed exchange rates offer much greater stability for the enterprisers and stimulate international trade; since the exchange rates stay on the same level, the importers and exporters can plan their policy without begin afraid of depreciation or appreciation of the currency. Moreover, fixed exchange rates make the producers more disciplined, i.e. they are forced to keep up with the quality of their production and to control the costs of the production to stay competitive compared to international enterprisers. This advantage of fixed exchange rates allows the government to decrease inflation level and stimulate international trade and economical growth in the long period.

Secondly, it is believed that fixed exchange rates stimulate the reduction of speculative activity worldwide; but this statement is true under the condition that the adopted exchange rates are profitable for the foreign dealers as well as for domestic ones (closer examination of this condition shows us that monetary and fiscal policies attempting to protect domestic producers – which are often required to preserve economical stability – violate this condition and therefore create the ground for speculative intervention).

The main disadvantage of it is the high vulnerability of the economical system to speculative attacks. Any economy experiences excess supply and demand in either national or foreign currency: and if the national banks are unable to cover the gap between the existing resources

and demand, the fixed rate needs to be changed; this situation reduces the positive effects of the fixed rate exchange system and decreases the credibility of the currency.

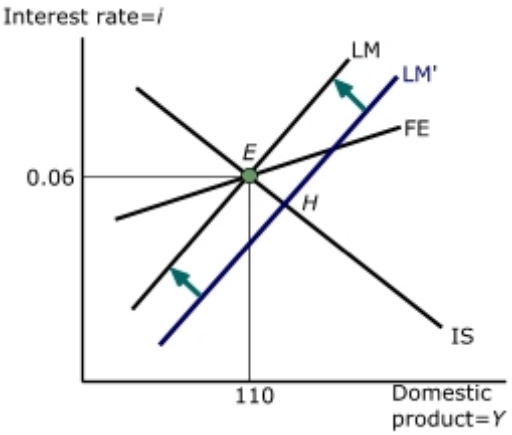
Another disadvantage of this system is that if the government artificially supports the exchange rate, which is not adjusted to changed economical condition, the development of the country's economy is not as efficient as it could be if the rate was adjusted to the situation. Moreover, interest rates, which directly depend on the exchange rate, can stop possible economical growth in case of their disparity to market needs.



Section 2: Impact of Monetary and Fiscal Policy on Exchange Rates

- **Fixed Exchange Rates - Expansionary Monetary Policy**

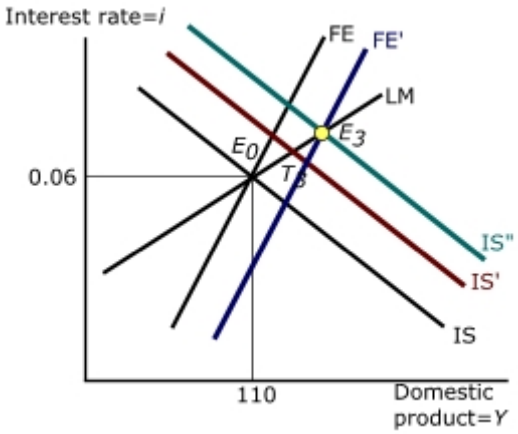
Initially, this economy is at point E. Point E is a triple intersection. An increase in the money supply would shift the LM curve to the right. After the shift, the new IS-LM intersection is at point H. Point H is at the right of the FE curve. At point H, there is a payments deficit. To defend the fixed exchange rate, the country will intervene and the money supply will decrease. We can show the decrease in the money supply by shifting the LM curve back to the original triple intersection. From this graph, we can conclude that monetary policy will not be very effective because of the balance of payments feedback and the need to defend the fixed exchange rate.



- **Fixed Exchange Rates - Expansionary Fiscal Policy (**Responsive int'l capital flows**)**

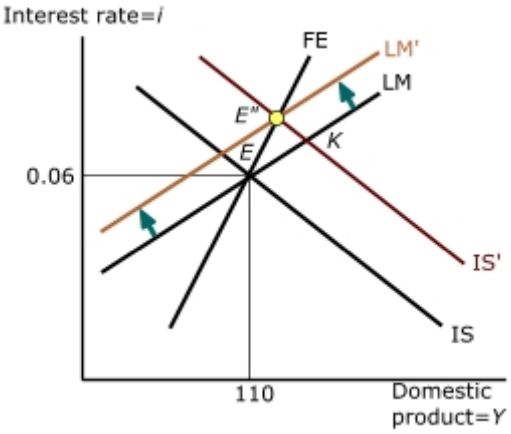
Initially, this economy is at point E. Point E is a triple intersection. Expansionary fiscal policy causes the IS

curve to shift to the right.. At point K, there is a payments surplus. As a result, there is a movement to defend the the fixed rate and the money supply increases. The LM curve shifts to the right and we return to a triple intersection at E'.



- **Fixed Exchange Rates - Expansionary Fiscal Policy** (Unresponsive int'l capital flows)

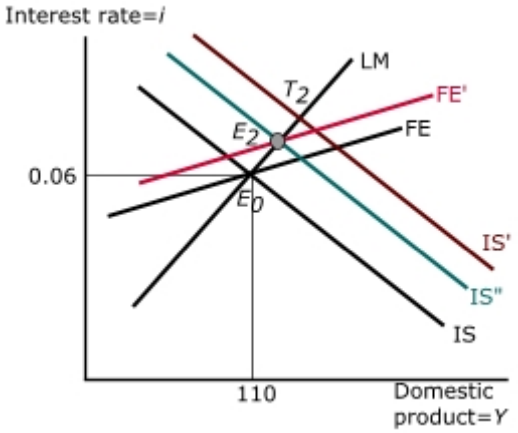
Initially, this economy is at point E. Point E is a triple intersection. Expansionary fiscal policy causes the IS curve to shift to the right. At point K, there is a payments deficit. As a result, there is a movement to defend the the fixed rate and the money supply decreases. The LM curve shifts to the left and we return to a triple intersection at E".



- **Floating Exchange Rates - Expansionary Monetary Policy**

Initially, this economy is at point E0. Point E0 represents a payments balance of zero. Expansionary monetary policy causes the LM curve to shift to the right. At point T1, there is a payments deficit. As a result, the country's currency depreciates. The FE and IS curves shift to the right and external balance is reestablished at E1.

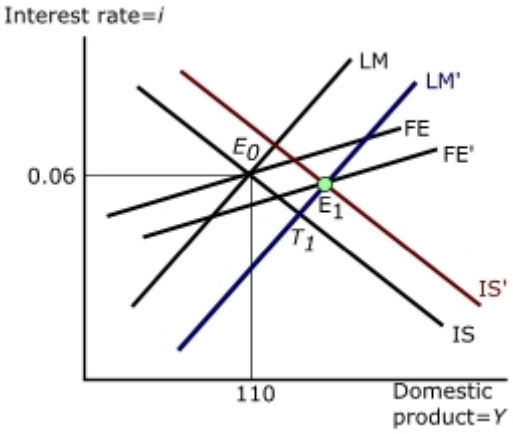
- **Floating Exchange Rates - Expansionary Fiscal Policy** (Responsive international capital flows)



Initially, this economy is at point E0. Point E0 represents a payments balance of zero. Expansionary fiscal policy causes the IS curve to shift to the right. At point T2, there is a payments surplus. As a result, the country's currency appreciates. The FE and IS curves shift to the left and external balance is reestablished at E2.

- **Floating Exchange Rates - Expansionary Fiscal Policy** (Unresponsive int'l capital flows)

Initially, this economy is at point E0. Point E0 represents a payments balance of zero. Expansionary fiscal policy causes the IS curve to shift to the right. At point T3, there is a payments deficit. As a result, the country's currency depreciates. The FE and IS curves shift to the right and external balance is reestablished at E3.



Section 3: Expenditure Changing and Expenditure Switching policies

In an open economy setting, policymakers need to achieve two goals of macroeconomic stability, viz. internal and external balances. Internal balance is a state in which the economy is at its potential level of output, i.e., it maintains the full employment of a country's resources and domestic price levels are stable.

External balance is attained when a country is running neither excessive current account deficit nor surplus (i.e., net exports are equal or close to zero). Attaining internal and external balances requires two independent policy tools

One is expenditure changing policy and the other is expenditure switching policy.

Expenditure changing policy aims to affect income and employment with the goal of equating domestic expenditure or absorption and production and takes the form of fiscal or monetary policy. Expenditure switching is a macroeconomic policy that affects the composition of a country's expenditure on foreign and domestic goods. More specifically it is a policy to balance a country's current account by altering the composition of expenditures on foreign and domestic goods Not only does it affect current account balances, but it can influence total demand, and thereby the equilibrium output level.

When a country wants to achieve both internal and external balances simultaneously, it is most effective if the country lets the value of its currency change so that change in the real exchange rate can affect both the economy's total demand and the demand for imports. Such policy to

achieve current account balances by manipulating the demand for domestic and foreign goods through changes in the value of the currency is called expenditure switching policy.

When expenditure switching policy is not available -- that is, when an economy is under the fixed exchange rate regime -- expenditure changing policy through fiscal policy becomes the only available policy tool for attaining internal and external balances. In the fixed exchange rate system, monetary policy becomes unavailable because it affects the interest rate and the exchange rate. However, fiscal policy is insufficient to achieve both internal and external balances in such an environment.

Section 4: Currency Convertibility

Current account convertibility refers to currency convertibility required in the case of transactions relating to exchange of goods and services, money transfers and all those transactions that are classified in the current account.

On the other hand, capital account convertibility refers to convertibility required in the transactions of capital flows that are classified under the capital account of the balance of payments.

At present, Indian rupee is partly convertible on current account. In 1997, the Tarapore Committee on Capital Account Convertibility (CAC), constituted by the Reserve Bank, had indicated the preconditions for Capital Account Convertibility. The three crucial preconditions were fiscal consolidation, a mandated inflation target and, strengthening of the financial system

India adopted a gradualist approach while initiating aprocess of gradual capital account liberalisation in the early 1990s. In 2003, the RBI Governor outlined issues related to capital account convertibility in India

Prime Minister Manmohan Singh on 18th March 2006 said there was merit in India moving towards fuller capital account convertibility. He asked Finance Minister and the Reserve Bank of India to revisit the subject and come out with a road map on capital account convertibility based on current realities

In response to Prime Minister's statement, Reserve Bank of India on 20th March 2006, announced Committee to set out Roadmap towards Fuller Capital Account Convertibility

Economists understand that capital mobility, fixed exchange rates and interest rates autonomy cannot exist together in any economy. The effects of monetary and fiscal policy in an open economy depend on capital mobility. Under floating exchange rates, monetary policy is a powerful tool for policy. Developing countries that seek to manage all three of the ingredients through policy often attempt (like India) to adopt a 'moving peg' system that corrects exchange rates through a series of time lagged steps. The problem in this approach is that the central bank (the RBI, for example) has to intervene periodically in the market to buy or sell dollars to prop up the current exchange rate.

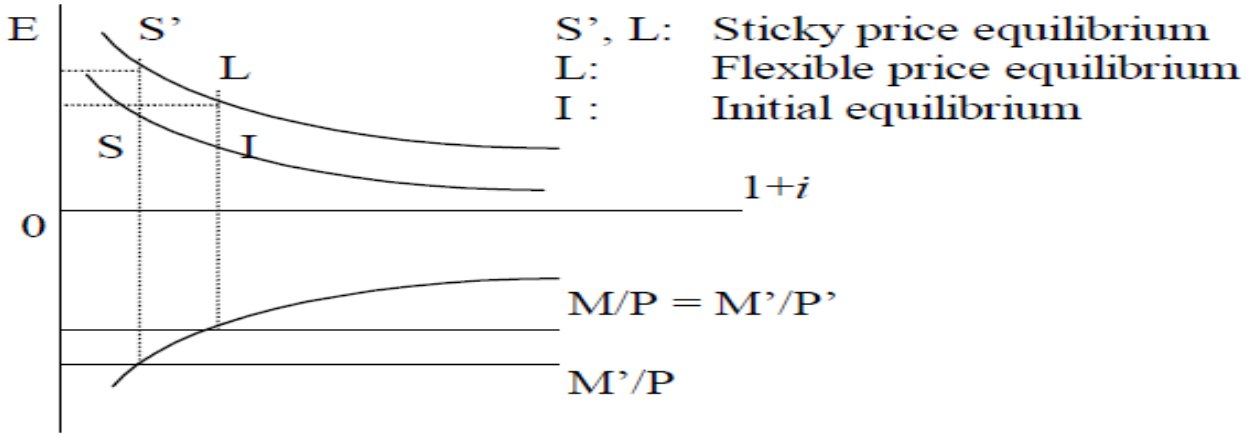
On the other hand, CAC allows free flows for all purposes other than capital purposes such as making investments and loans. In India, CAC was established with the acceptance of certain obligations with the Internal Monetary Fund (IMF) in 1994. Progressively, there has been increasing liberalization on this account. For example, resident Indians are allowed to invest abroad without any limits. Non Resident Indians (NRI) are allowed to repatriate proceeds of their assets sold in India. Permitted allowances for business travel, education, health, etc., are extremely generous.

Up to 1991, when India faced a major foreign exchange crisis, there had been very rigid controls on both the external capital as well as the current account. The liberalization process that started after 1991 and the terms of the IMF conditionality helped to relieve the current account transactions and the resulting growth and investments in the economy augmented the forex reserves of the country. The improvements encouraged the government to set up a committee in 1997 to spell out a road map for the full convertibility of the rupee.

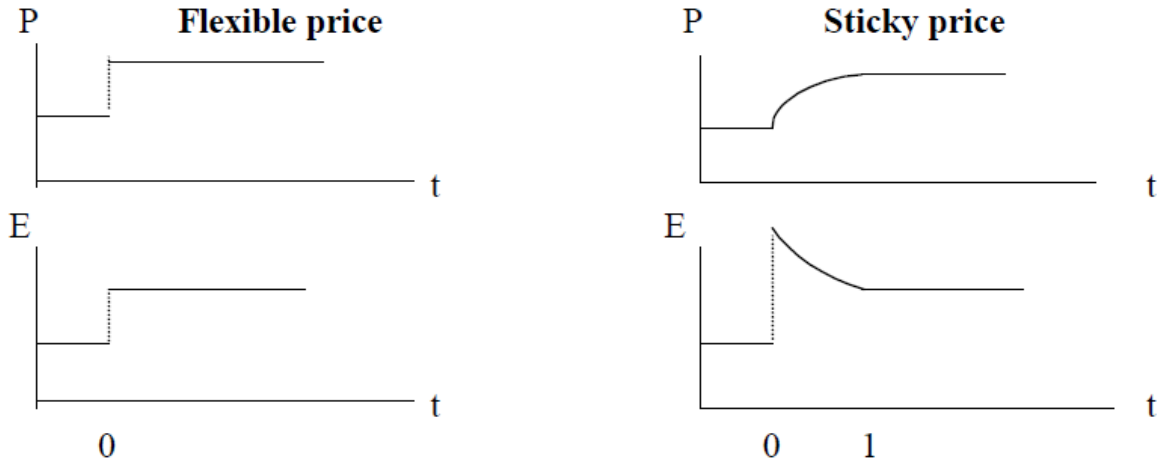
Section 5: Exchange rate overshooting

Overshooting is short-run excessive movement in exchange rates. It happens because of "difference of speed of adjustment across markets." To be specific, price is sticky in goods market. But price adjusts instantaneously in financial markets (money markets and foreign exchange markets, in this context). In fact, agents know that in the long run, price will increase and exchange rate will depreciate. That is the reason why the curve in foreign exchange market diagram shifts upward. The long-run equilibrium is L. Under flexible price,the economy jumps from I to L instantaneously. But with sticky price, it moves from I to S' instantaneously, and then

from S' to L slowly, while P and i increases slowly too. Note that S is not any equilibrium, because of the change in expectation. The difference between levels of E at S' and at L measures the degree of overshooting.



The diagrams below compare time paths resulting from an unanticipated permanent increase in domestic money supply. The date of long run under flexible price and sticky price are different. Time 0 is both short and long run for flexible price world. In contrast, with sticky price, time 0 is short run and time 1 becomes long run.



Monetary model of long-run exchange rate determination

Key Assumptions

i. 2 money markets: $m-p = \mu y-\lambda i$

$m^*-p^* = \mu y^*-\lambda i^*$

ii. Free trade

Absolute PPP: $P = E\ P^*$

Relative PPP: $p = e + p^*$

iii. Free capital mobility

UIP: $i - i^* = e$

Long-run exchange rate: $\ln E = (m-m^*) - \mu(y-y^*) + \mu(\Delta m-\Delta m^*)$

Exchange rate depends on "relative" change in money supply, in output, and in money supply growth rate.

Random walk model

Random walk model (or process) is a "time series" model. A time series model is what explains determination of a variable using its own pasts.

Random walk

$Et(Et+1) = Et+ et+1$

According to random walk model, the best predictor of future exchange rate is today exchange rate. So far, economists have not come up with a better theory to beat random walk model.

Section 6: Currency Crisis

A currency crisis is brought on by a decline in the value of a country's currency. This decline in value negatively affects an economy by creating instabilities in exchange rates, meaning that one unit of the currency no longer buys as much as it used to in another. To simplify the matter, we can say that crises develop as an interaction between investor expectations and what those expectations cause to happen

Government Policy, Central Banks and the Role of Investors

When faced with the prospect of a currency crisis, central bankers in a fixed exchange rate economy can try to maintain the current fixed exchange rate by eating into the country's foreign reserves, or letting the exchange rate fluctuate.

Foreign reserves are used to overcome the crisis. When the market expects devaluation, downward pressure placed on the currency can really only be offset by an increase in the interest rate. In order to increase the rate, the central bank has to shrink the money supply, which in turn increases demand for the currency. The bank can do this by selling off foreign reserves to create a capital outflow. When the bank sells a portion of its foreign reserves, it receives payment in the form of the domestic currency, which it holds out of circulation as an asset.

Propping up the exchange rate cannot last forever, both in terms of a decline in foreign reserves as well as political and economic factors, such as rising unemployment. Devaluing the currency by increasing the fixed exchange rate results in domestic goods being cheaper than foreign goods, which boosts demand for workers and increases output. In the short run devaluation also increases interest rates, which must be offset by the central .

Anatomy of a Crisis

If investors' confidence in the stability of an economy is eroded, then they will try to get their money out of the country. This is referred to as capital flight. Once bank through an increase in the money supply and an increase in foreign reserves, investors have sold their domestic-currency denominated investments, they convert those investments into foreign currency. This causes the exchange rate to get even worse, resulting in a run on the currency, which can then make it nearly impossible for the country to finance its capital spending.

Predicting when a country will run into a currency crisis involves the analysis of a diverse and complex set of variables. There are a couple of common factors linking the more recent crises:

- The countries borrowed heavily
- Currency values increased rapidly
- Uncertainty over the government's actions made investors jittery

Example 1: Latin American Crisis of 1994

On December 20, 1994, the Mexican peso was devalued. The Mexican economy had improved greatly since 1982, when it last experienced upheaval, and interest rates on Mexican securities were at positive levels

Several factors contributed to the crisis:

- Economic reforms from the late 1980s, which were designed to limit the country's oft-rampant inflation, began to crack as the economy weakened.
- The assassination of a Mexican presidential candidate in March of 1994 sparked fears of a currency sell off.
- The central bank was sitting on an estimated $28 billion in foreign reserves, which were expected to keep the peso stable. In less than a year, the reserves were gone.
- The central bank began converting short-term debt, denominated in pesos, into dollar-denominated bonds. The conversion resulted in a decrease in foreign reserves and an increase in debt.
- A self-fulfilling crisis resulted when investors feared a default on debt by the government.

When the government finally decided to devalue the currency in December of 1994, it made major mistakes. It did not devalue the currency by a large enough amount, which showed that while still following the pegging policy, it was unwilling to take the necessary painful steps. This led foreign investors to push the peso exchange rate drastically lower, which ultimately forced the government to increase domestic interest rates to nearly 80%. This took a major toll on the country's GDP, which also fell. The crisis was finally alleviated by an emergency loan from the United States.

Example 2: Asian Crisis of 1997

Southeast Asia was home to the "tiger" economies, and the Southeast Asian crisis. Foreign investment had poured in for years. Underdeveloped economies experience rapid rates of growth and high levels of exports. The rapid growth was attributed to capital investment projects, but the overall productivity did not meet expectations. While the exact cause of the crisis is disputed, Thailand was the first to run into trouble.

Much like Mexico, Thailand relied heavily on foreign debt, causing it to teeter on the brink of illiquidity. Primarily, real estate dominated investment was inefficiently managed. Huge current account deficits were maintained by the private sector, which increasingly relied on foreign

investment to stay afloat. This exposed the country to a significant amount of foreign exchange risk. This risk came to a head when the United States increased domestic interest rates, which ultimately lowered the amount of foreign investment going into Southeast Asian economies. Suddenly, the current account deficits became a huge problem, and a financial contagion quickly developed.

The Southeast Asian crisis stemmed from several key points:

- As fixed exchange rates became exceedingly difficult to maintain, many Southeast Asian currencies dropped in value.
- Southeast Asian economies saw a rapid increase in privately-held debt, which was bolstered in several countries by overinflated asset values. Defaults increased as foreign capital inflows dropped off.

Foreign investment may have been at least partially speculative, and investors may not have been paying close enough attention to the risks involved.

Lessons Learned

There are several key lessons from these crises:

- An economy can be initially solvent and still succumb to a crisis. Having a low amount of debt is not enough to keep policies functioning.
- Trade surpluses and low inflation rates can diminish the extent at which a crisis impacts an economy, but in case of financial contagion, speculation limits options in the short run.
- Governments will often be forced to provide liquidity to private banks, which can invest in short-term debt that will require near-term payments. If the government also invests in short-term debt, it can run through foreign reserves very quickly.
- Maintaining the fixed exchange rate does not make a central bank's policy work simply on face value. While announcing intentions to retain the peg can help, investors will ultimately look at the central bank's ability to maintain the policy. The central bank will have to devalue in a sufficient manner in order to be credible.

Section 7: Conclusion

Thus it can be seen that India has been severly impacted by the opening up of our economy. India has become highly responsive to various changes going around all over the world. Flexible exchange rates have made us integrated with the world economy which is allowing the countries to sign agreements with eachother. We have successfully followed Current account convertibility and are moving towards capital account convertibility. Growth in developing countries is generally positive for the global economy, but growth rates that are too rapid can create instability and a higher chance of capital flight that runs on the domestic currency. Currency crisis has a major impact on the economies and we need to instill certain steps in order to reduce the impact of crisis in the economies as all the economies are integrated.

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