INTRODUCTION
The idea of this research project came into my mind in 1997, when most of the countries of East Asia, 'the great success stories of International Monetary Fund-World Bank (IMF-WB) structural adjustment program', were in deep crisis. The questions that came to my mind were: why do most of the currency crises take place in the developing world? Is it because they do not follow the disciplines of international monetary system that they are supposed to follow for keeping the exchange rate stable? What kind of discipline are they supposed to follow? Then the obvious question that comes is whether the developed world had followed that discipline. If they did not, then, why could they get away without facing such currency crises? This thesis is an attempt to answer all these questions.

Before attempting to answer these questions, we should try to define, what actually we mean by the discipline in the international monetary system. We have defined it in terms of keeping sufficiently large reserves to maintain exchange rate stability, i.e., a disciplined country that wants to keep its exchange rate stable, should have a large foreign exchange reserve. In the system of Gold Standard and Bretton Woods, it was an accepted fact that large reserves were required to keep the exchange rate fixed. This link between exchange
rate and reserves was very explicit in the basic structural norms of these two systems.

The basic structural norms of the Gold Standard system were:

(1) Interconvertibility between domestic money and gold at a fixed official price.

(2) Freedom for private citizens to import and export gold and

(3) A set of rules relating the quantity of money in circulation in a country to that country's gold stock.

The exchange rates among national currencies were decided through the relative amount of gold promise against the currency notes by the respective central banks. So, the exchange rate of a country was dependent upon the central bank's promise of the amount of gold that it was willing to pay in exchange for one unit of currency and this was fixed. Hence, to keep the promise, central banks needed to keep sufficient monetary gold reserves against their money in circulation. So, there was a direct link between the exchange rate and the monetary gold reserves in Gold Standard.

The Bretton Woods system broke the direct link between the exchange rate and monetary gold reserve, which theoretically existed in Gold Standard system, except for the USA. Such a direct link existed now only for the U.S. dollar. All other countries had to fix, at a level fixed by the International Monetary Fund (IMF), a par value for its currency in terms of the U.S. dollar. Every country had to keep its
exchange rate within 1 percent of its par value, but retained the right to adjust its central parity, upon securing the concurrence of the IMF, if ever a 'fundamental disequilibrium' developed in its balance of payments. Thus all the other countries were theoretically indirectly linked with monetary gold reserve via the US dollar.

The link, between the exchange rate and foreign exchange reserve, is not so obvious in the post-Bretton Woods era. During this period, the exchange rate is determined, at least theoretically, by the demand-supply conditions in the market for foreign exchange. In fact, theoretically foreign exchange reserves should not have any role under a flexible exchange rate system. But it comes into the picture if any central bank wants to keep its exchange rate pegged. The traditional monetarist view says, intervention in the foreign exchange market by any central bank will be effective in changing the exchange rate only to the extent that it constitutes a change in money supply, which will affect the price. Thus, according to this view, reserve-exchange rate linkage get established through the change in money supply. But there are attempts to show that there can be other mechanisms for a linkage between reserves and the exchange rate. Many\textsuperscript{1} have tried to establish that sterilized intervention is also effective to change the exchange rate. There are two channels through which they claim that this exchange rate change take place.

\textsuperscript{1}Dominguez, K and Frankel, J A (1993),
Schwartz, A. J. (2000),
The first is the need for portfolio balance and second is through signaling. The portfolio balance channel says that because of foreign exchange risk, domestic and foreign securities are imperfect substitutes. So, investors have to be compensated by a risk premium for holding foreign securities. Sterilized intervention changes the supply of foreign relative to domestic securities. So, equilibrium in investors’ portfolio gets disturbed. To restore balance, a change in risk premium, measured as the deviation from uncovered interest rate, is required. Hence change in the asset return will change the spot exchange rate. Suppose, the Central bank is selling the foreign currency denominated assets and buying back the domestic currency denominated assets to sterilize the reduction in money supply. Supply of foreign currency denominated assets will increase. So the risk premium for holding domestic currency denominated assets will come down.

The risk premium can be defined as $\phi = r - r^* - \frac{\hat{e}}{e}$

Where, $r$ is real rate of interest of domestic country, superscript * denotes the foreign country, and $\hat{e}$ is expected exchange rate. Exchange rate of the domestic currency is defined by keeping the foreign currency as the denominator.

For a given real rate of interest differential, as the risk premium comes down, either the present exchange rate have to appreciate i.e $e$ have to come down or expectation about future
exchange rate appreciation comes down i.e. \( \dot{e} \) have to go up. In mainstream economics usually it is assumed that \( \dot{e} = f(e) \).

If \( f'>0 \) or \( f'=0 \), for coming down of risk premium \( \phi \), exchange rate have to appreciate. If regressive expectation operates, i.e. for \( f'<0 \), \( \dot{e} \) will go up as exchange rate appreciates. If \( f' \) has very large negative value, the exchange rate will appreciate by a very little amount.

The second channel, signaling says that sterilized intervention is supposed to signal a change in the monetary policy intentions of the central banks. The signal activates a response by the private sector to move exchange rate in the direction that the monetary authority seeks.

Anyway, keeping monetary policy in center stage has constituted the whole linking up between the reserve change and exchange rate.

We shall try to show, in this thesis, that there is no need to bring in monetary policy to establish the linkage between exchange rate and reserve. The level of reserve stock will itself create the expectation regarding future exchange rate. If the expectation is that the exchange rate will appreciate, the actual exchange rate will appreciate. It is because, we assume that actions flow from the judgement about the future. Suppose, the majority of foreign
exchange traders believe that a particular currency is expected to appreciate. These traders will buy the currency, because by doing so, they will realize capital gains. A net increase in the demand for this currency will lead to its actual appreciation, i.e., actual exchange rate of a period depends upon the expected exchange rate of that period and if the average expectation is that the exchange rate will appreciate, then the actual exchange rate will appreciate. This expectation about exchange rate will change with the change in the stock of reserves. This change in expectation about exchange rate will influence the capital flow and capital flow will also influence the expectation about the exchange rate. And ultimately the exchange rate will change. The validity of this result will depend upon one thing, i.e., capital inflow should be autonomous to current account, or, to be precise, current account deficit should not have significant influence on exchange rate and capital flow should not be significantly sensitive to rate of interest differential.

In all the international monetary systems, the discipline was needed in terms of keeping sufficient foreign exchange reserve. All the countries did not maintain this discipline. The countries, whose currencies had large use as international money, did not need to be disciplined. The use as international money has given rise to the expectation of stable exchange rate on average. This expectation itself has facilitated the more extensive use of such currencies as
international money. The reason behind the greater use as international money of these currencies is the dominance of these countries over world trade and finance, which was also associated with the political dominance of these countries over the world. It creates the political consensus of accepting these currencies as international money. In other words, this political consensus was by and large built up on the basis of political consensus of accepting these countries political hegemony. Whenever this political hegemony of any country has come down its currency’s use as international money has reduced. The glaring example of this is the British-sterling of post-Gold Standard period.

The consequence of this is that, first, the exchange rates of the currencies that have greater use as international money are relatively more stable than those of the rest of the world. It makes them less dependent upon foreign exchange reserves to maintain the stability of the exchange rate and second, they have greater money pulling power through the change in interest rate compared to other countries.

All these have deeper implications for the theories of exchange rate behavior. Most of these theories will not work, as many of the causal connections postulated between rate of interest and capital flows and exchange rate are invalid. One of the implications of it will be, that the Mundell-Fleming kind of result i.e. monetary policy will be
effective to increase income, but not fiscal policy, can be rejected. It is because, for developed countries, capital flows do not have significant influence on exchange rate change; and for developing countries increase in rate of interest differential does not attract capital flows significantly.

We shall proceed in this thesis in the following way. We have divided the thesis in two parts. In the first part of the thesis, we shall have a historical survey of Gold Standard and Bretton Woods system. Chapter one and two are devoted to discuss the Gold Standard system and Bretton Woods system respectively. In part two, we shall discuss the Post-Bretton Woods Era. We have devoted the remaining chapters to discuss this.

In the first chapter, we shall discuss that despite having a direct link between exchange rate and monetary gold reserves, in Gold Standard System, Britain did not have sufficient reserves. The indicator we have used is reserve–money ratio. Despite having low reserve, she could get away with it, because of the international use of her currency as reserve currency. This was because, she had hegemony over the world politics, world trade and finance. This use as reserve currency had created the expectation that this currency would be stable, which in effect had helped Britain to have more money pulling power than the rest of the world through the change in
its rate of interest. This itself had helped her to maintain a stable exchange rate.

In the second chapter, we have discussed the Bretton Woods system where the direct link between exchange rate and monetary gold reserve was broken, except for the US dollar. All the IMF member currencies had this link, indirectly, with the monetary gold reserve via the US dollar. Due to the shift in world hegemony over the world politics, trade and finance, US dollar became the reserve currency. Unlike the British sterling of Gold Standard period, it was given the official status of reserve currency by the International Monetary Fund. This official status itself, as well as the economic and political hegemony the US had forced the other central banks to see to it that the US dollar could continue as reserve currency, because a major part of their foreign exchange reserve was held in US dollar. This had helped the US to maintain US dollar parity with monetary gold reserve despite having low foreign exchange reserves. We have used reserve-money ratio as an indicator to test this proposition. So, again here also the US could get away with low reserves compared to other countries. This discrepancy was there, because the US dollar was getting used as international reserve currency. So the asymmetry we mentioned in Gold Standard system continued in the Bretton Woods system.
In the next part of our thesis, we have discussed the post-Bretton Woods flexible exchange rate system. At the beginning of this part, apart from an introductory chapter, we shall have a brief review of existing macroeconomic theories of exchange rate behavior, as the third chapter. The problems with this mainstream theorization of exchange rate behavior are many. They assumed that all the economies are either at full employment level or more generally are supply constrained economies. There is already a huge literature on this debate viz. whether the economy is supply constrained or demand constrained. We are not going to add another paper to this large literature. We are objecting to these theories on two accounts; first, the role of reserve, as a crucial factor, has either very little recognition or treated as a residual factor. Second, capital flow depends upon the current account situation. This might be true in the decades of 70s and 80s. But it should be questioned in the 90s, because of the structural changes in the international finance that took place from the end of the 80s through the whole of the 90s.

In the fourth chapter, first, we have discussed that the disciplines, usually are imposed by the IMF on the developing countries, are how far followed by the developed world also. We have formulated an alternative model of exchange rate behavior putting reserve and capital flow in the center stage. The econometric testing of it shows that, for developing countries, the change in
countries, rate of change in exchange rate does not have statistically significant influence on capital flow. But real rate of interest differential have statistically significant influence on capital flows. The reason may be the same i.e. the currencies of the developed world have greater use as international money.

In the seventh chapter, we have constructed a simultaneous equation model to establish the exchange rate-reserve change relationship. It shows that for developing countries this relationship exists. But for developed world there is no such significant relationship exists.

The part two ends with a concluding chapter. And our thesis ends with a concluding note, which reiterates that the reserve is a crucial factor for exchange rate stability of the developing countries where as, for the developed world, it is not. And they could get away with this because of a basic asymmetry in international finance, i.e., some currencies have greater use as international money. This asymmetry persisted through all the international monetary systems.