SUMMARY OF FINDINGS AND POLICY IMPLICATIONS OF THE STUDY

The present study is carried out to examine whether the behaviour of India's BoP is in line with various theoretical explanations that have been advanced in the literature. More specifically, the study attempts to test the empirical validity of the traditional and modern approaches to BoP in the Indian context. In order to assess the merits and demerits of each theory in the given context, the study has reviewed the various theories/approaches to BoP. The review is carried out with an aim of examining the adequacy of Keynesian and monetary approaches to BoP.

A simple Keynesian model of BoP incorporating the conventional theoretical propositions is formulated, and its fundamental propositions and policy prescriptions are examined. In this context, the feasibility of exchange rate (devaluation) and domestic interest rate policies to tide over payments problem is discussed. The causal relationships underlying the absorption approach have also been tested.

A detailed analysis of BoP is carried out within the empirical framework of the monetary approach to BoP (MABP). The study investigated the relationship between domestic monetary conditions and BoP during the period of fixed exchange rate from 1950 to 1975. The reserve flow and sterilisation equations are estimated simultaneously to see whether the domestic monetary expansion is offset by an equal and opposite changes in international reserves or BoP. The study also examined the influence of domestic monetary disequilibrium condition on combined movement in foreign exchange reserves and exchange rate during the period of managed floating exchange rate from 1975 to
1990. The monetary model of exchange market pressure is formulated and estimated to see the impact of changes in domestic component of money supply on BoP and exchange rate. It is also attempted to see the response of monetary authorities to monetary shocks by incorporating a measure of absorption into the exchange market pressure equation.

A comprehensive test of the assumptions of the MABP is also carried out in the study. The relevance of the policy prescriptions of the MABP depends upon the validity of its exogeneity assumptions that the determinants of money demand, and changes in domestic credit arc exogenous with respect to changes in international reserves. In this study, the exogeneity specification is formulated as a testable hypothesis and verified using a multivariate systems test of exogeneity within the framework of complete dynamic simultaneous equation model (CDSEM) framework.

The findings and implications of the study are as follows:

(i) From the critical review of the earlier work attempted in this study, it was observed that the conventional models including the Keynesian model are not adequate for analysis of BoP phenomenon. The review revealed that omission of certain essential components of analysis of BoP including fiscal operations of the government and monetary policy of the central bank, render the theories unsuitable. In a country like India where persistent budget deficits exist, the link between budget deficit and BoP has to be recognised and must necessarily be analysed together. None of the models reviewed seem to emphasise on this linkage. While all the theories together have identified the most important causes of BoP problem, each of them in isolation seem inadequate. It is evident from the review that the existing theories do not
fare well in the Indian context in view of the fact that they do not agree upon the simultaneous interaction of real and monetary forces, consistent with the institutional realities, to determine the payments position.

(ii) The estimated results of the Keynesian trade balance, capita! How and BoP equations showed that exchange rate and interest rate are ineffective in determining payments position. When exchange rate rises (devaluation) the model assumes an improvement in trade balance through a favourable terms-of-trade effect. But the Indian situation may not conform to a text-book example of the case for devaluation. The Marshall-Lerner condition may not be satisfied in practice due to the persistence of certain bottlenecks in domestic production which keep both the supply of exports and demand for imports inelastic to a change in relative price. It is presumed that devaluation could boost up exports if it is sensitive to competitive conditions in the world market. But in practice, only around 40% of India’s exports is prone to competitive conditions. Given this reality it is illogical to expect devaluation to exert a favourable effect on BoP in an input-import dependent country like India. Hence, the non-viability of the policy of devaluation in the Indian context has been indicated.

(iii) It is also observed that, since interest rates in India are largely administrated (during the sample period), a market-determined interest rate is desirable to attract more capital inflow.

(iv) An empirical test of the scheme of causal relationships underlying the Keynesian income-absorption approach has been tested using the Granger, Sims and multiple rank F tests. The results, by and large, rejected the basic contention of the absorption approach - a unidirectional causal relationship running from income to absorption, and instead established the interdependence
between them. This in fact, makes its policy prescription (that the simultaneous adoption of expenditure-switching and expenditure reducing policies when output is at near full employment level) more effective to improve trade balance. Alexander hypothesises that a devaluation leads to change in trade balance via an income-induced change in expenditure and a non-income induced, or directly effected, change in expenditure. The net changes in income and expenditure due to devaluation determine the change in trade balance. However, when the effect of changes in expenditure on income is incorporated into the model, the magnitude of change in trade balance however, would be different.

(v) A detailed analysis of India's BoP within the theoretical and empirical framework of the MABP under fixed exchange rate revealed that the movements in international reserves are not explained by domestic money market conditions. The estimated results of the reserve flow equation showed that a change in domestic credit is not offset by an equal and opposite change in reserves. This may be due to strict exchange control policies pursued by the government wherein the residents will not be able to get rid of excess supply or excess demand for domestic credit through foreign commodities or securities market. The poor performance of the model may be attributed to the fact that a disequilibrium in the money market does not necessarily have to be reflected in a BoP deficit or surplus, because it could be offset by a deficit or surpluses on the government budget. The inflow of money from a BoP surplus need not disturb the equilibrium of the money market if accompanied by a government budget surplus. The reason is that in an open economy with fixed exchange rate budget imbalance and BoP imbalance would neutralise one another. The estimated sterilisation equation supports the presence of a high degree of sterilisation reducing (increasing) domestic credit by some fraction of
reserve inflows (outflows) either through open market operations or through bank credit/debit to government. This indicates that at least some degree of sterilisation can be undertaken in the short-run to neutralise the inflows and outflows of money associated with BoP surpluses or deficits. The unsuitability of the model may be attributed to among other factors, a low degree of openness of the economy, strict foreign exchange control policy of the government and a relatively inflexible financial market.

(vi) An analysis of combined movements of international reserves and exchange rates has been carried out within the framework of exchange market pressure (EMP) model. The EMP model states that an increase in the rate of growth of domestic credit for a given rate of growth of domestic income and world prices will result in an equi-proportionate loss in reserves with no change in exchange rate or an equi-proportionate depreciation of domestic currency with no change in reserves, or some combination of the two. The estimated result of the EMP equation showed that only the coefficients of domestic credit which is of crucial importance in the model and money multiplier are of expected sign and significant. In addition to this, a measure of absorption is incorporated in to the EMP equation and estimated to see whether the monetary authority makes choice between reserves and exchange rate changes in response to monetary shocks. The estimated coefficient of the measure of absorption was found to be insignificant implying that the measure of EMP is not sensitive to its composition of changes in reserves and exchange rates. On the whole, the evidence indicated that while MABP under fixed exchange rates failed to explain reserve movements, combined movements in exchange rates and international reserves during the managed floating exchange rate system are explained to a certain extent by the EMP model. This contradiction in result may be attributed to the fact that under managed floating exchange rate system
residents are able to get rid of a part of the excess real balances through foreign exchange market since the market forces partially determine the exchange rate.

(vii) Tests are carried out to verify the exogeneity assumptions underlying the MABP that the determinants of money demand, and domestic credit are exogenous with respect to changes in reserves. The study investigated into the validity of the exogeneity assumptions in three different ways. First, a simultaneous estimation of reserve flow and sterilisation equations is made to confirm the absence of sterilisation. Secondly, using three causality tests viz., the Granger, Sims and Multiple rank F-tests, bivariate causality is examined. Finally, a multivariate systems test of causality within the framework of CDSEM is applied to test the joint exogeneity of price level, real income, interest rate, money multiplier and changes in domestic credit with respect to reserve flows. The result of the study do not support the MABP specification of exogeneity. While the Granger, Sims and Multiple rank F-tests collectively fail to provide a consistent pattern of causality between reserve flows and its possible determinants, the OLS and 3SLS estimation of sterilisation and reserve flow equations, and the Wald and likelihood ratio tests for the CDSEM uniformly reject the exogeneity assumptions. This introduces simultaneity between change in reserves and its determinants, and makes the policy propositions of the MABP invalid. Unless domestic component of monetary base is exogenous, it cannot be considered as a policy variable. Hence the monetarists' proposition that a continuous BoP deficit can occur only if the authorities allow domestic credit to expand faster than the demand for money, is of questionable validity in the Indian context.