CHAPTER I

METHODOLOGY AND RESEARCH DESIGN
INTRODUCTION

The study of balance of payments has acquired a growing significance during recent years. In fact, it has been an important tool in the analysis of economic conditions and in shaping the financial and general economic policies of every nation. Though a disequilibrium in the balance of payment is a universal phenomenon, it poses a very serious problem especially in developing countries today. Even the developed countries are also facing a continuous deficit in their current account of balance of payments except a few industrial countries like Japan, Federal Republic of Germany and Switzerland. In the case of developing countries, there is a fundamental disequilibrium, especially India's balance of payments turned to deficit, which became a serious impediment for economic growth of the country. The balance of payments influence the domestic activity and interlinked with the developmental atmosphere particularly for developing countries. Hence every country strives to have favourable balance of payments. India is no exception in this context.

The Balance of Payments (BOPs) provides basic data in logically organized forms for the quantitative analysis of international trading relationships as well as for the formulation of judgements concerning the significance and results of foreign trade. As a tool of economic analysis, it indicates how the goods and

services and capital received from abroad are paid for and how foreign nations paid for the things that they received. It shows whether or not sales of merchandise and services to foreigners were sufficient to pay for the goods and services purchased from them and, if they were not, what means were employed to pay for them, the amount that investments abroad brought in terms of income receipts and the amount of income that was paid foreigners for their investments.

Some of the effects of the Government's unilateral transfers of economic and military aid to foreign countries can also be estimated from these data. The compilations likewise show the relationships between the movements of short-term capital and other transactions and indicate the net amount of gold and foreign exchange received or paid out as a result. The major purpose of keeping such records is to inform governmental authorities of the international position of the country, to aid them in reaching decisions on monetary and fiscal policies on the one hand, and trade and payment questions on the other. Comparison of a series of balance of payments over successive years can reveal changes in a country's trading position, that is, the relative movement of its exports and imports. Such information could clearly be significant for the determination of trade and commercial policies as also for deciding policies affecting national income.

The Balance of payments problem is directly connected with the economic growth and the economic development for all developing countries, which are in the process of growth and development. According to the classical and neo-classical economists, the foreign trade that is the main component of current account of the balance of payments is the engine of growth. But it has been modified by some and denied by others. Gustav Rams maintains that "The less developed economy should treat trade not as an engine of growth but as an additional efficient machine of production at its disposal transforming exports as inputs into imports as outputs." He gave a scientific explanation for the role of exports in economic growth in different stages.

Mackinnon Iain points out the interrelationship of the rate of growth of Gross National Product and the condition of the balance of payments. Increasingly, exports can act as a cause of economic growth by enlarging the market and inducing a larger expenditure of domestic resources. In addition to the above, the imports are a source of vital capital goods that help to the consumer choice with respect to the range of goods and services available in a growing economy. A high level of exports enlarges the volume of imports of equipment that can be financed without endangering the balance of payments, and this greater degree of freedom.

makes it easier to take a long term view and plan domestic investment without constant interruption that destroys half of its value. It may be observed that economic growth is made possible by stepping up of the rate of investment which increases the productive capacity of the economy. But additional investment involves an increase in income which would lead to increased imports. The participation in international trade has a far reaching implication for efficient utilization of domestic resources and the level of economic welfare in the country concerned. Thus the study of the pattern of a country's international trade is, therefore, an integral part of the study of a country's economic development.

THE SCOPE OF THE STUDY

The scope of the study of the subject matter is wider, because the economic transactions between residents of different countries encompass almost all types of activities which are interrelated. Thus the balance of payments is influenced by and large various factors such as output, income, consumption, money supply, price level, wage level, employment, and other interrelated factors. But this study combines itself to describe the trends and movements of developments in the field of balance of payments during the planned era.

As balance of payments problem has multiple dimensions, involving both domestic and international policies, the present study examines all the relevant, related important and recent factors. The trade policies, measures which are taken by the Government of India to overcome the problem relating to balance of payments are also discussed in brief. For convenience, the balance of payments of developing countries has been discussed only with regard to current account.

India's balance of payments problem is not something which relates only to a single item say merchandise imports or exports or the problem of invisible account or the problem of deficit on current account or either capital inflows or capital outflows. It is the summation of all the problems studied by different items of India's balance of payments. The past studies have covered specific problems of balance of payments and ignored the problem in its totality. Hence the study covers all aspects related to India's balance of payments since the planning era specifically focussing on 1970s and 1980s.

THE PROBLEM

Although the world economy is continuing to expand at a moderate pace, the persistence of large fiscal and external imbalances clouds the international economic outlook. In most of the developing countries, monetary growth and inflation have accelerated sharply, and fiscal and trade deficits have remained high. In
this respect there has been a tremendous discussion in India about the country's balance of payments difficulties and ways and means of tackling the problem. It should be useful to take a global look at the subject of international payments in recent years, with many interesting developments and trends of far-reaching interest to the students of economics, businessmen as well as policy-makers.

The problem of balance of payments is closely linked with the developmental programmes of an economy. It not only influences domestic economic activities but also gets influenced by them. The Indian economy is affected in developmental aspects by the unsteady problem, in recent period because of chronic droughts, oil price hike, rising imports, bad diversification of exports etc. So the persistence of the payments problem of developing countries especially India needs a careful examination. The effective measures are necessary to solve the problems of balance of payments through a consistent policy and deserves attention.

SELECT REVIEW OF LITERATURE

There is copious literature on international economics dealing with the theory, policy of international trade and balance of payments. A built up of the analytical literature on the "Pure" theory of international trade using sophisticated analytical tools is available in the form of articles published in the National and International journals and reports.
The literature of the middle ages and mercantilist period is mostly found scattered in the religious and political treaties and pamphlets of sheer descriptive nature lacking analytical content. In the mercantilist system which dominated the scene during the sixteenth, seventeenth and the first half of the eighteenth centuries, foreign trade was highly regulated and controlled by the omnipotent and omniscient state. But Adam Smith had strongly denounced the mercantilist system.  

In the twentieth century, particularly during and after the World War I, the nature of international trade underwent a substantial change necessitating modifications and refinements of the classical theory. The German transfer problem, the post-war inflation, the abandonment of the gold standard in the 'Thirties', the Great Depression which caused chronic imbalances in the balance of payments of many countries compelling them to take resort to severe restrictive measures, including foreign exchange controls, tariffs and quotas, multilateral trading system. All these changes in the nature of international trade were reflected in the growth of new literature on international economics. The literature in this field is extensive. However, the following may be

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considered as basic references Ohlin, Meade, Myrdal, Kindleberger, Nurkse, Patel, Linder, Meier, Robert, Thirlwall, Sodersten and a host of others dealt with some of these problems in their excellent works

7 Bertile, Ohlin, Interregional and International Trade, Cambridge Harvard University Press, 1933
13 Linder, S.B., Trade Policy in the Less Developed Countries, New York, Prager Publication Co Ltd, 1967
THE REVIEWS OF PAST STUDIES

There have been several major works on balance of payments and on India's foreign trade but a little work has been done so far on India's balance of payments. These studies have concentrated, primarily on merchandise imports and exports or a particular commodity or invisible trade or either current account transactions or capital account transactions. Some studies relate to the balance of payments as a whole for the period of earlier eighties. In the macro-model available on the Indian economy as a whole, balance of payments has only received fleeting references, thereby concealing much of the behavioural information.

The existing studies relevant to this thesis may be divided into two broad groups. They are:

(1) Studies relating to foreign trade, and

(1) Studies relating to the balance of payments

(1) STUDIES RELATING TO FOREIGN TRADE

Patel \(^{18}\) has detailed the volume, composition and direction of Indian exports for the period 1928 to 1956. Since the world demand for India's traditional exports is in fact declining, he has predicted a gloomy future for Indian exports which have stagnated during the period of his study and export promotion measures then undertaken by the Government had not proved.

effective His conclusions however, seems to be biased in favour of international factors influencing India's exports, to the neglect of domestic factors

Cohen's study on India's exports is related to the period 1951-61. Contrary to Patel's analysis, Cohen concludes that Indian exports were stagnated more due to domestic factors, such as higher domestic production costs and rising domestic demand leading to higher export prices vis-a-vis the world prices, than to the relatively falling the world demand for India's traditional exports.

Dutta has explained the trends of India's exports and imports for the period 1950-51 to 1959-60 through the prototype model. He treated the capital account as exogenous in his model. One equation each for merchandise imports and services imports has been set up and studied exports on the basis of markets, viz., exports to Dollar area, Sterling area, OECD countries and the rest of the world. Imports have been explained through domestic industrial production, relative prices and an index of trade barriers. The results of his study established that imports of both merchandise goods and services are elastic with respect to domestic industrial production.


Singh has devoted to analyse India's exports prospects in 1970-71, because this is the period by which India's planners expect the economy to become self-sustained. According to him, any single factor, either external or internal, would not provide an adequate explanation of export performance, since each of the commodities will be facing different conditions of demand and supply in the domestic and world markets.

Marwah's work on, "A Econometric Model of India's Foreign Trade" for the period of 1947 to 1965 analysed that the imports were divided into six categories, i.e., food and beverages, raw materials, fuel, chemicals, manufactured goods (consumer goods) and machinery and equipment. Imports were made functions of national income, per capita income, relative prices and availability of foreign exchange reserves. Exports have been categorised into two groups, i.e., those going to developed countries and the other to developing countries. These have been made functions of the income of the importing countries.

Bhagwati and Srinivasan in an attempt to explain the influence of liberalisation on export performance estimated export functions for a number of traditional and non-traditional commodity


22 Kanta Marwah, "An Econometric Model of India's Foreign Trade", Carton Economic Papers, 1969

groups from 1951-52 to 1969-70. The estimated functions used domestic production, domestic demand and a dummy to capture the effect of devaluation as explanatory variables. The coefficients of all the variables are statistically significant and the right sign.

Halder's work is discussed the chronic deficit in the balance of payments of India and has stimulated research in which an attempt has been made to examine broadly on two aspects of Indian export trade. They are (1) the nature of India's export performance which includes the examination of the causes of India's apparent export failure, and (ii) the trend of diversification in Indian export trade. The study also described the factors responsible for India's export failure in different markets and an attempt is made to estimate price elasticities, income elasticities and elasticities of substitution of Indian export products in respective national markets and his concluding remarks noted that Indian exports are suffering from both price competition and quality competition.

Nayyar's book is an indepth study of India's export performance and policies in the 1960s. The study is both at the macro as well as micro-level of important exportable commodities and of India like tea, jute/ engineering goods. However, he did


not make any attempt to explain the determinants of engineering exports either at the aggregate level or at the level of disaggregation. His work is mostly confined to an analysis of export trends.

Singh’s book analyses some of the basic problems of India’s trade with South East Asia which is itself not even a precise geographical concept. It involves a realistic probe into the nature of the latter’s production, imports and export pattern and its impact on industrialisation in the region.

Bhandari in his unpublished work gives the structure and strategy of India’s export during the first three five year plans and export promotion schemes up to the beginning of the Fifth Plan. The share of exports financing to imports was declined from 83 per cent in the First Plan to 51 per cent in the Third Plan, the gap was financed by a massive external assistance. During the First Plan there was no export promotion schemes introduced to improve the exports. And even Second and Third Plans also ignored to push up the exports. But in the beginning of the Fifth Plan, the Government introduced many measures to over take the chronic trade deficit like Export Oriented Licencing State Trading Corporation, Board of Trade and other.

26 Romani Kumar Singh, K, India’s Trade with South-East Asia, Allahabad, Chugh Publications, 1976

27 Bhandari, B S, Export Promotion Schemes in India During the Plan Period, (Unpublished thesis), University of Indore, 1977.
Advisory Bodies, Supply of raw materials, Cash Subsidy, Insurance and facilities, Trade Zones. Devaluation are important

Sharma 28 worked on India's imports both at aggregate and disaggregate level for the period 1960-61 to 1972-73. His conclusions regarding aggregate imports are that they are determined more by the capacity to import rather than the desire to import. The availability of foreign exchange reserves and net foreign aid set a limit to imports besides other factors solely as price, and production in the world.

Agarwala 29 has intended to focus attention on the central issues effecting our efforts for exports and the steps necessary to bridge this yawing gap and to achieve a large percentage share of world trade. He outlined the challenges and opportunities that the existing world of international marketing holds and have also attempted to examine the emerging international economic order and the strategy for the Third World and particularly with reference to India.

Panchamukhi 30 has discussed the magnitude and the direction of the structural changes that took place in the field of

29 Agarwala, P N, India's Export Strategy, New Delhi, Vikas Publishing House Pvt Ltd., 1978
trade in the Indian economy during the first two decades of development (1950-70) He calculated the growth rates and instability coefficients for exports and imports and compared the ratio of trade gap to Gross Domestic Product and analysed different trade policies

Adiseshiah, Panchamukhi dealt a chapter each on India's Foreign Trade during the seventies and first half of the eighties. They found that India's foreign trade had been relatively stagnant during the Sixth Plan and has been under strain as far as the balance of trade deficit is concerned. The conclusion given by Panchamukhi is that interdependence in the world economic system seems to have been considerably increased.

Krishnalekha Sood studied the evolution of foreign trade in India, Pakistan and Bangladesh, the three most populous countries of South Asia. He felt that the foreign trade is a crucial instrument for industrialisation, while access to foreign exchange is essential for sustained economic development.

31 Adiseshiah, M S , Role of Foreign Trade in Indian Economy, New Delhi, Lancer International, 1986, pp 11-30
32 Panchamukhi, V R , Op cit , pp 30-36
33 Krishnalekha Sood, Trade and Economic Development, (India, Pakistan & Bangladesh), New Delhi, Sage Publications, 1989
11) STUDIES RELATING TO THE BALANCE OF PAYMENTS

Benarjee has estimated current and capital accounts of India's balance of payments for the inter-war years, 1921-38. The estimates have been made for the following items in the current account, viz., interest and dividends on foreign investments in India, profits remitted by exchange of banks, tourists account remittances of insurance and shipping companies doing business in India. With regard to capital account, a detailed industry-wise break-down of foreign investment in India between 1921-38 has been made.

In the book edited by Ball, UNCTAD staff have built a macro-econometric models for India of which the external trade sector deals with exports and imports of goods and services and factor income paid abroad, during 1950-1969. Imports have been divided into two broad groups, i.e., food and non-food imports, the former being explained by domestic food output, real income of the non-agricultural sector and prices of food imports, the latter being determined by non-agricultural income and import prices.

Kelkar has analysed the benefits and costs of private foreign investment in India for the period 1964-72. He has also

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studied the quantitative and qualitative changes in the character of private foreign investment in India. He concluded that the net accretion to domestic investible resources has been negative in the period of study and also that foreign exchange reserves has been marginal with the result that private foreign investment has not been highly beneficial to Indian economy.

In a Quarterly Journal of Foreign Trade Review often reviewed on India's Foreign Trade and the Balance of payments for year-wise and plan-wise relating to the composition of exports and imports and directions of trade, current account balance and sources of financing the deficits of current account. In addition, some of the eminent scholars' articles related to Balance of Payments also seen in this journal. The latest developments related to India's trade and balance of payments with ratio of GDP are showed in some articles.

Some of the studies show the trends in India's balance of payments during 1947-1978 and earlier eighties. Without tracing the balance of payments of developing countries, the studies conclude that, the BOP problems has been more pronounced in case of less developed countries than the developed ones with regard to magnitude composition, and burden of the problems.

37 a Mukherjee, Neela, "Balances in India's Balance of Payments 1951-52 to 1977-78", Foreign Trade Review, Vol XV, No 4, Jan-March, 1981

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The studies also found receipts on current account which have been generally inelastic in nature when compared to the items of payments side. On the capital account long-term capital inflow for less developed countries, in general, has not been enough to match foreign capital requirements.

Nayyar\textsuperscript{39} detailed on India's Balance of Payments since Independence. During the quarter century that followed independence, trade deficits and payments difficulties were almost chronic. It was only in the early 1970s for the first time, that the deficit was virtually eliminated while the net aid inflow reached its lowest level in years. The study suggests that steps must be taken to expose the Indian economy to the forces of international competition by reducing the level of protection to domestic industry. The trade policies should be amended suitably and export promotion should be designed to encourage production for the world market and the process of import liberalization should be carried much further.

Some studies\textsuperscript{40} gave an idea about the problems of balance of payments of developing economies with reference to India. The

\textsuperscript{38} b Ramakrishna, A C, *Trends in India's Balance of Payments 1969-1979: Their Implications for Planned Development*, (Unpublished thesis), University of Mysore, 1983
\textsuperscript{39} c Mrs Sekiya Khan, *India's Balance of Payments Since Independence*, (Unpublished thesis), University of Cewhati, 1984
\textsuperscript{40} a Mukherjee, Neela, "Balance of Payments-Problems of Developing Countries, India - A Case Study (1950-51 to 1977-78)", *Foreign Trade Review*, Vol XVIII, No 2, (July-Sep 1983), pp.224-232
balance of payments policies was neither desirable nor sustainable for an orderly evolution of the international economic system and that, for achieving medium-term viability, balance of payments adjustment policies in developing countries must ensure a reasonable and sustained economic growth and other industrial countries also endorsed this view.

Mukherjee\(^{41}\) has explained invisible trade in developing countries with special reference to India for the period of 1950-1980. He made a brief description of the kinds of barriers existing in the field of invisibles like flag discrimination, sabotage laws, and operating subsidies. As a proportion of the current account of India's balance of payments, invisibles have been only second in importance to merchandise trade.

Suneja's\(^{42}\) book reviewed that the concepts and methods of compilation of balance of payments, mentioned the important causes which reflected the chronic deficit of balance of payments of India. He studied that an adverse balance of trade need not necessarily mean an adverse balance of payments. A visible trade deficit may be offset by a surplus on invisible Britain and the USA are the examples of the countries which normally

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have large invisible surplus from the provision of services such as banking and insurance and earnings from past investments. Italy and Israel are the examples of countries with a large flow of remittances from emigrants and other well-wishers. He has given measures to improve India's balance of payments and detailed the uses of IMF loan in concluding remarks.

Rao, V. L. discussed on India's Balance of Payments in his research paper, which shows that the overall trends in India's balance of payments are far from viable and the main reason for this seems to be lack of a comprehensive policy framework towards the balance of payments. In his concluding remarks he suggested that the appropriate order of economic liberalization is domestic liberalization followed by liberalization of the current account and then the capital account of the balance of payments.

Saxena, R. B. book is dealt with the nature and background of IMF loan to India. He explained the uses of fund facilities under various schemes to India since it joined as a member. He mentioned the IMF prescriptions which cover ten major areas - monetary, fiscal and budgetary, internal resources mobilization, industrial, agricultural, price reform, foreign investment, foreign trade, external borrowing and exchange rate management.

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Avadhani has devoted a chapter on India's balance of payments. The study gives the trends in balance of payments very briefly during the planning period up to the Sixth Plan after discussing the methods of compilation and defining the main components. During the First Three Plan periods invisible trade was a net surplus. With the result the current account deficits were lower than what the merchandise trade deficits would have led to. Subsequently, invisible trade turned into net deficits and its favourable impact on India's balance of payments disappeared until a surplus re-emerged again in the seventies, by inward remittances.

Holla has analysed the movements of India's overall balance of payments during the four decades of planning. He made an attempt to situate the external sector in its proper macro-economic perspective so as to secure an appreciation of its role in the development process. He also traced the actual out turn in balance of payments with a view to assessing them against estimates or projections made at the outset of each plan, and the aberrations in developments brought out by external or internal shocks.


Rao and Quddus have discussed the importance of foreign trade for under-developed countries especially India's trade balance during the plan periods and earlier periods. Different articles give different trends, in exports and imports and growth rate in trade balance.

Sarma and Holla have reviewed India's balance of payments on the basis of the data given by RBI reports. The studies stated that India had persistent trade deficit and current account deficit almost throughout the period since Independence. Although India did not have serious difficulties up to the end of the First Plan Period, but the economy was consciously insulated from the international environment in the initial period i.e., during 1950s and 1960s. In late seventies an export promotion drive was undertaken, but it did not yield substantial results due to competition among developing countries.

Costa's book gives a brief sketch about India's balance of payments during the seventies and the Sixth Plan of the eighties. Since the beginning of the Second Five Year Plan India

50 Holla, K R, Op cit
had difficulties with her balance of payments. It is persistent and chronic especially in the eighties. However, there was, in the early and the mid-seventies, an easing of the pressure on the country's external payments.

Mukherjee carried out a test of the hypothesis of offsetting capital flows in his article for the Indian economy over the period 1950-51 to 1980-81. He framed a model to estimate gross and net inflows in both money and real terms, sometimes it happens that both dependent and independent variables are subject to some type of trend influences and end up with a high correlation. The model has been calculated net value of trend by taking ratios to straight line or semi-exponential trend values.

Malhotra and Saxena have mentioned some ideas about foreign direct investment in India and its important role in filling the resource gaps in accelerating the growth of a developing economy. The Third World countries require substantial external resources to maintain the tempo of investment and growth on a sustainable basis. This investment facilitates imports of capital.

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53 Malhotra, R N, "Foreign Direct Investment in India", Bombay, RBI Bulletin, April, 1990, pp 257-265

54 Saxena, D N, "Foreign Direct Investment", Foreign Trade Review, Vol XXIV, No 1, April-June, 1989, pp.76-99
goods and technology, which are not available and thus help promote the diversification of the economic structure and its efficiency.

Chandra Prasad 55 studied the impact of oil shocks on India's balance of payments during 1970s. He found that the views against the belief among the economists were that the oil price hike has led to adverse terms of trade and a severe deficit in the balance of payments of oil importing less developed countries like India resulted in lower 'capacity to import'.

Sanjaya Baru 56 and Ramachandran 57 have reviewed the effect of Gulf crisis on India's balance of payments. In the concluding remarks they have noted that the crisis of the present magnitude could not have been anticipated, the efficiency or otherwise of the Government is reflected in how this is tackled.

Reserve Bank of India's Bulletins 58 are reviewed on India's balance of Payments trends in every year and Plan wise ratio of GDP. It gives the systematic data on the Balance of payments.

55 Chandra Prasad Ashok, K., "Impact of Oil Price Hikes on India's Terms of Trade and Balance of Payments", Journal of Indian School of Political Economy, Vol II, No 1, Jan - April, 1990, pp 139-152.


57 Ramachandran, K S., "The Economic Scene Coping with the Gulf Crisis", Financial Express, November 24, 1990

as followed by IMF. It studies the commodity wise exports and imports, net invisible trends and current account deficit. Sometimes it traces the foreign investment position and the level of foreign exchange reserves.

Some studies described the policies which are used to overcome the balance of payments difficulties. The main policies are Rupee Devaluation, Exchange Rate Management and IMF policies. Overall devaluation should be helpful in achieving a better balance on current account of balance of payments. This must also help to increase inward remittances, by nationals living abroad. Inflow of capital should also increase steadily, provided other conditions are favourable. But devaluation will also produce adverse effects which it will take some time to work off. India has been drawn loans from IMF by certain conditionalities to restore disequilibrium in the BOPs.

In fact, literature on balance of payments is flooded with massive volume of theories and empirical studies of several countries of the world. Even the theories which have been evolved failed to offer satisfactory explanation and solution to the problem of balance of payments, particularly for developing economies. Each theory, at best has been able to offer partial explanation.


and solution to the problem of balance of payments. There is of course, nothing to wonder about this. The explanation has in the complex economic structure of developing economies, uneven economic development of different economies, lack of determined and organised efforts to achieve sustained growth of their economies and the unsympathetic attitude of developed economies towards the growth of these developing countries. Even in respect of India, which is considered as one of the leading developing economies, the well developed western theories have been titled to help in explaining the cause and cure for the problem of the balance of payments.

OBJECTIVES

The main objectives of the present study are

1. To discuss the changing patterns in the balance of payments of developing countries,

2. To study the behaviour and the structure of India's overall balance of payments during the planning era,

3. To analyse the trends in receipts and payments of the different components of India's balance of payments,

4. To assess the balance of trade gap, balance of invisible trade gap and the level of foreign exchange reserves and
5 To examine the trade policies and measures that have been implementing by the Government of India to tackle the problem of balance of payments

HYPOTHESES

Keeping in mind the broad objectives mentioned, the following hypotheses have been framed for the study:

1 There is a continuous deficit on current account of balance of payments of the selected developing countries under study,

2 There is no correlation between the balance on current account and balance of trade,

3 There is no significant growth in net invisibles for the period of 1970s and 1980s,

4 There is no significant growth in receipts and payments of different components of balance of payments,

5 There is no significant change in the size composition of exports and imports and use of the foreign exchange reserves in India
DATA COLLECTION

The present study is based mainly on the information from the published data and secondary sources which are released by National and International Financial Institutions like Reserve Bank of India, Report on Currency and Finance, Department of Director General, Commercial Intelligence and Statistics (DGCIS), Government of India, International Monetary Fund and World Bank. The compilation of data on balance of payments by RBI Bulletins (Bombay) and visible trade by DGCIS (Calcutta) are the chief sources for India's balance of payments, whereas for developing countries and for other countries, data are collected from the International Financial Statistics and Balance of Payments statistics (IMF, Washington D.C.).

Statistical data about India's Foreign Trade (visible trade) are obtained from several sources and data from each source differ particularly, large differences occur between data supplied by the Director General, Commercial Intelligence and Statistics and data supplied by the RBI, because of differences in the definition and stage basis of collection. While DGCIS data are based on f.o.b invoices of shipments, RBI data are recorded on the basis of actual export receipts. Similarly, data once published are amended and revised from time to time for several reasons. Especially the data published by International Financial Statistics and Balance of Payments Statistics (IMF) are revised and updated every year.
Therefore, the data for developing countries had been taken from 1986 and 1991 year books only.

For the study of India's Foreign trade, the data supplied by DGCI S are the main source, because maximum detailed information of commodities as per Revised Indian Trade Classification about all the countries of the world is available. As a matter of fact, DGCI S data are the primary data so far as the all India foreign trade data are concerned. Various methods of classification, analysis and interpretation of statistics data for arriving at conclusions have also been used.

In addition to the above, Economic Surveys by the Government of India, Annual Reports, IMF Survey by IMF and the World Development Report by World Bank and the Journals like Economic and Political Weekly (Bombay), Financial Development and Economic Impact (IMF), Southern Economist (Bangalore), Yojana (New Delhi), and Dailies such as the Economic Times and Financial Express (Madras) etc., are also used for this study.

Besides the above, occasional papers like Research and Information System for the non-aligned and other developing countries in economics, Macmillan Study Services (London) and Indian Economic Association 72 and 74 conference volumes etc., have also been referred for this work.
STATISTICAL TECHNIQUES USED

Application of statistical tools is mainly concerned with reduction of large number of observed data to the point where general trends become apparent. An attempt is made to employ the following tools like Time Series analysis to estimate the trends of different variables from the Method of Least Squares, Measures of Central Tendency, Dispersion, Co-efficient of Correlation, Co-efficient of Regression are used in this study.

To determine the causal factors both for trade balance and current account balance, multiple regression models are also applied in this study. They are as follows:

a) \[ Y = B_0 + B_1 x_1 + B_2 x_2 + B_3 x_3 + U_1 \]

\(U\) = Trade Balance (Difference between exports and imports)

\(x_1\) = Net barter terms of trade

\(x_2\) = GNP at current prices

\(x_3\) = Foreign Exchange Reserves

b) Multiple Regression for current account balance of India's balance of payments

\[ Y = B_0 + B_1 M_t + B_2 E_t + B_3 I_t + B_4 C_t + B_5 O_t + U_1 \]

\(Y\) = Balance on current account

\(M_t\) = Imports

\(E_t\) = Exports

\(I_t\) = Net Invisibles
\(C_t\) = Net capital transactions

\(O_t\) = Errors and omissions

c) Multiple Regression for capital account balance of India's balance of payments

\[ Y = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 \]

\(Y\) = The net capital account balance

\(x_1\) = The net current account balance

\(x_2\) = GNP at current prices

\(x_3\) = Saving investment gap

d) Analysis of Variance is used to test whether there is a significant difference in between three or more samples to find F-ratio by sum of square by-mean squares (SS/MS) model is used

Linear and compound growth rates have been calculated using the following formulae. The trends in the growth of receipts and payments of different components of balance of payments are as follows

e) Linear growth rate

\[ Y = a + bt \]

Where \(Y\) = dependent variables like receipts and payments of visible / invisible current account and capital account

\(t\) = Time period

\(a\) and \(b\) are constant, and trend values respectively
To test whether the linear growth rate is significant or not, the test of significance applied is shown below

\[ t = \frac{\hat{b}}{\sqrt{\frac{S^2}{\sum t_i^2}}} \]

Where \[ S^2 = \frac{\sum \hat{E}_i^2}{N-2} \]

\[ \hat{E}_1 = Y_1 - \hat{Y}_1 \]
\[ \hat{Y}_1 = \hat{b} \times t_1 \]

f) Compound growth rate

\[ Y = ab_t \]
\[ \log Y = \log a + t \log b \]

Y = dependent variable

a, b = parameters

b = Antilog of (B)

t = time period

To test whether the component growth rate is significant or not, the test of significance applied is shown below

\[ \text{SE}(B) = \left[ \frac{1}{n-2} \left( \frac{SYy}{Stt} - b^2 \right)^2 \right]^{\frac{1}{2}} \]

\[ SYY = \sum Y^2 - \frac{(\sum Y)^2}{n} \]

\[ Stt = \sum t^2 - \frac{(\sum t)^2}{n} \]
The student 't' test is also employed to test whether there is a significant difference in the average value of receipts and payments of balance of payments and its components, in between the two decades, the formula used is as follows

\[ \frac{\sqrt{\frac{n_1 S_1^2 + n_2 S_2^2}{n_1 + n_2 - 2} \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}{X_1 \sim X_2} \]

Degrees of freedom = \((n_1 + n_2 - 2)\)

Graphs, trend lines and diagrams are also used in order to illustrate the dry facts and figures where ever there is need

**ORGANISATION OF THE WORK**

The entire work is organised into Eight Chapters

The First Chapter introduces the subject matter along with research design and methodology

The Second Chapter explains in brief the theories of trade and balance of payments by introducing the main components

The Third Chapter analyses particularly the balance of payments, problems of developing countries. The structure of India's current account position of balance of payments has been discussed in the Fourth Chapter
An attempt has been made to discuss the trends in capital account of India's balance of payments in the Fifth Chapter. The Sixth Chapter finds the trade gap, composition of imports and exports and direction of trade in India.

The Seventh Chapter discusses different trade policies and measures which are used to reduce the trade gap and deficit on current account. The last chapter gives the summary of the main conclusions.

LIMITATIONS OF THE STUDY

1. As the scope of the study is very wide and the nature of the problem is very complex, it is difficult to study each and every variable from microscopic study and explain its cause and effect relationship with the balance of payments. Hence only important variables are chosen to explain the balance of payments situation in India.

2. The present study is confined to the planning period only i.e., 1951 to 1990 even though the complete revised latest data are available, it is focused to study mainly for seventies and eighties.

3. Due to data gaps, certain variables of the study are either restricted to shorter period or treated non-statistically.
4 The study is purely based upon the secondary source. Each source of information has its own limitations. Data supplied may also be biased for reasons and may not be as exact as accurate.

5 A continuous data and sources have been used and are tried to maintain their homogeneity and comparability and have depended upon such information to the extent that broad trends and conclusions may not vary even if there may be some in-built errors and omissions here and there.

6 Since 1966-67, the data on India's foreign trade figures are given in post-devaluation rupees. Therefore, they may not strictly be compared with previous years' figures.