CHAPTER - I

INTRODUCTION

1.1 CHARACTERISTICS IN INDIAN ECONOMY :

Indian Economy, over the last few decades, since Independence, has been experiencing three remarkable features. First, India, through her ambitious plans for achieving self-sufficiency in agriculture and industrial production, attained spectacular development in agriculture. Moreover, India transformed herself from a pure agrarian economy to an outstanding industrial country amongst the developing countries in the world. As a result thereof, India's national income displayed almost steady growth since 1973 with some occasional ups and downs since 1980[1].

Second, output growth is marked by simultaneous growth of money supply. With phenomenal monetization of the economy, India has undergone a remarkable process of transformation from the barter economy to an exchange economy.

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1. The association between structural change and the process of economic development is one of the extensively explored themes and is well documented in the literature of economic development. The foremost researches in this field are those of Fisher (1960), Clark (1940) Kuznets (1956-67, 1971), Chenery (1960), Chenery and Taylor (1968) and Chenery and Syrquin (1975). The central thesis emerging from their studies is that there is a necessary structural transformation with rising per capita income. The general pattern of transformation, as observed from these studies, is that "The main characteristics of the transformation, that emerged from the long term experience, were a shift in the production of commodities from primary to manufacturing activities and a mild increase in the share of services in total output. In the case of employment a shift away from primary was also observed but with a lag, implying an intial drop in relative labour productivity in that sector. Part of the transfer of labour from the primary sector went into industry but, on average the main beneficiary was the service sector - perceived by Clark, Kuznets and others.

The Indian Economy during this period has experienced a change of production structure with a shift of emphasis from agriculture to service, the sector shares being 50:20:30 in 1960, 45:22:33 in 1970, 37:26:37 in 1980 and 31:29:40 in 1990 for agriculture, industry and services respectively. During this period, the service sector witnessed a very high rate of growth of its share in GDP (1960-70 = 4.6 ; 1970-80 = 5.2 ; 1980-90 = 6.5) *[from the Indian Economic Journal Vol. No. 43 No. 2, p. 103].*

Growing monetization of the economy coupled with lower interest rate policy in the early phases of the planning led to the spurt in investment. Consequently, output registered an noticeable growth which evidently added to the purchasing capacity in the economy. Thus, the expansion of money supply is marked by concurrent growth of output level.[2]

Third, now-a-days, 'expectations' about some important economic variables like money supply, investment or price levels have emerged as a significant factor behind economic activities in the economy. With the improvement in the depth, breadth and resilience of the capital markets, expectations have emerged as a significant economic factor affecting major macro-economic variables like output, money supply and price level[3].

It has also been observed very recently that stock exchange market becomes bearish when people expect a change in Government. Mere expectations about the take-over of some companies by any business group causes spectacular fluctuations in stock prices of some related companies. Even some unrelated companies also feel the tremor.

It has, therefore, been pertinent to a researcher to see if there exists any link among these three phenomenal features. More specifically, researchers sought to find if output variations were related to the growth of money supply.

However, expectation about money supply and thereby, unanticipated part of money supply also emerged as important macro-economic variables. Lucas, Sargent and other rational expectationists suggest that unanticipated part of money supply plays a significant role in shaping output growth in the short run. It is, therefore, pertinent to see how far output growth in Indian Economy has been related to variation in different parts of money supply, namely, anticipated and unanticipated parts.

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2. Shrivastaba & Saxena - "A Role on the theory of Money", Indian Economic Journal, Oct, Sec. 1968.

3. Chatterjee, S. - "Price, Output & Money Supply in India - An Econometric Study" An unpublished M.Phil Dissertation submitted to the Deptt. of Economics, North Bengal University, 1990.

1.2 GRAPHICAL REPRESENTATION :

Figs. 1.1 and 1.2 depict the time plots of money-supply (M_t) and output level (GNP = Y_t) respectively over the period, 1950-91. Fig.1.1 represents an exponential rise of money supply, though with a little downward movement up to 1953, throughout the period . But there are frequently so many little ups and downs from the very beginning to the end. It tells us that money supply increases year by year but not at a fixed rate. The economy with its growing money supply has got herself transformed from barter economy to exhchange economy i.e. monetized economy. Fig. 1.2 also represents the same characteristics as the Fig. 1.1 does. It shows that output level rises exponentially, though at the very beginning it rises very slowly or with a little downward movement at 1954. Since then it rises very sharply with a few ups and downs throughout the period .

Fig. 1.3 represents the time plots of both the output level and money supply over the period concerrned. It is observed from the Fig. 1.3 that

(i) variation in output level is in conformity with that in money supply over the period concerned ;

(ii) it is examined that the curve of money supply is steeper than that of output level ; and

(iii) the curve of output level shows more ups and downs from the very beginning to the end in comparison to that of money supply.

It may, however, be noted in this connection that these graphs show the time plots of non-stationary[4] data set. For better explanation, we seek to examine the time plots of stationary[5] data set for this variable concerned.

Figs 1.4 and 1.5 represent the time plots of stationary data set for money supply and output level respectively. These graphs exhibit fluctuations in indicating varying rates of growth for both the variables concerned. In order to understand the nature of associations between these two variables, time plots of both the variables are presented together in Fig. 1.6. It is observed from the Fig. 1.6 that

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4. The non-stationary series, either in GNP (Y_t) or in money supply (M_t) has been subject to first order differencing in order to ensure stationarity in the data set.

5. Stationary series indicate that the data set for (Y_t-Y_{t-1}) or for (M_t - M_{t-1}) represent the variation in Y_t or in M_t over the previous period.

(i) variation in output level over some years is broadly positively related to that in money supply. Both the curves exhibit fluctuations in the same direction though with varying extents over some years of the period concerned ; and

(ii) over some years the variation in output level is found to be either negatively related or unrelated to that in money supply.

Consequently, the exact nature and extent of the association of output level with money supply cannot be determined and established. This is what usually happens with visual observation. Visual observation has several short-comings. First, it suffers from subjective bias. Second, it fails to give exact nature of association among the variables concerned. So, graphical representation calls for quantitative study to overcome the short-comings. We seek to address this issue in this study.

1.3 OBJECTIVE OF THE STUDY :

The present work is devoted to the study of output - money supply relationship in the line suggested by the Rational Expectationists over the period 1950-91. More specifically, we seek to study if output variation were in any way related to variation in money supply. In the event of such relationship being present, we seek to see how far and to what extent the variation in output level is related to changes in anticipated and unanticipated part of money supply.

More explicitly, the study is undertaken to examine the Rational Expectationist's proposition that output growth in the short run is not responsive to variation in anticipated part of money supply. According to them, variation in unanticipated part of money supply generates significant variation in output level.

However, we are aware that historical data set may embody several structural changes in such relationship. Therefore, it becomes pertinent on our part to examine if the relationship is stable over the period of study. If not, the period of study, may consist of several sub-periods embodying structural changes. We seek to dentify such sub-periods where structural changes have occurred in such relationship. We then seek to examine, under different sub-periods, the relation between output variation and variation in different parts (anticipated and unanticipated) of money supply.

1.4 THE PLAN OF THE STUDY :

This paper is accordingly divided into nine chapters.

Chapter-II presents the review of literature.

Chapter-III deals with methodology and data resource.

In Chapter-IV output-money supply relationship over the period 1950-91 is analysed. We seek to find out the appropriate model among the alternatives.

In Chapter-V, we have sought to isolate the anticipate and unanticipated parts of money supply through the estimation of appropriate money supply equation. Several alternative models have been estimated for this purpose and the appropriate one has been presented.

Chapter-VI has been devoted to study the relationship of output variation with the anticipated and unanticipated parts of money supply over the period 1950-91.

In Chapter-VII, we have sought to identify several sub-periods in which structural changes in output-money supply relations have occurred.

Chapter-VIII is devoted to study the relation between output and different parts of money supply over the sub-periods identified.

In Chapter-IX, observations in different chapters have been presented for review along with a discussion on public policy implications of the findings.

TIME PLOT OF MONEY SUPPLY (M_t)

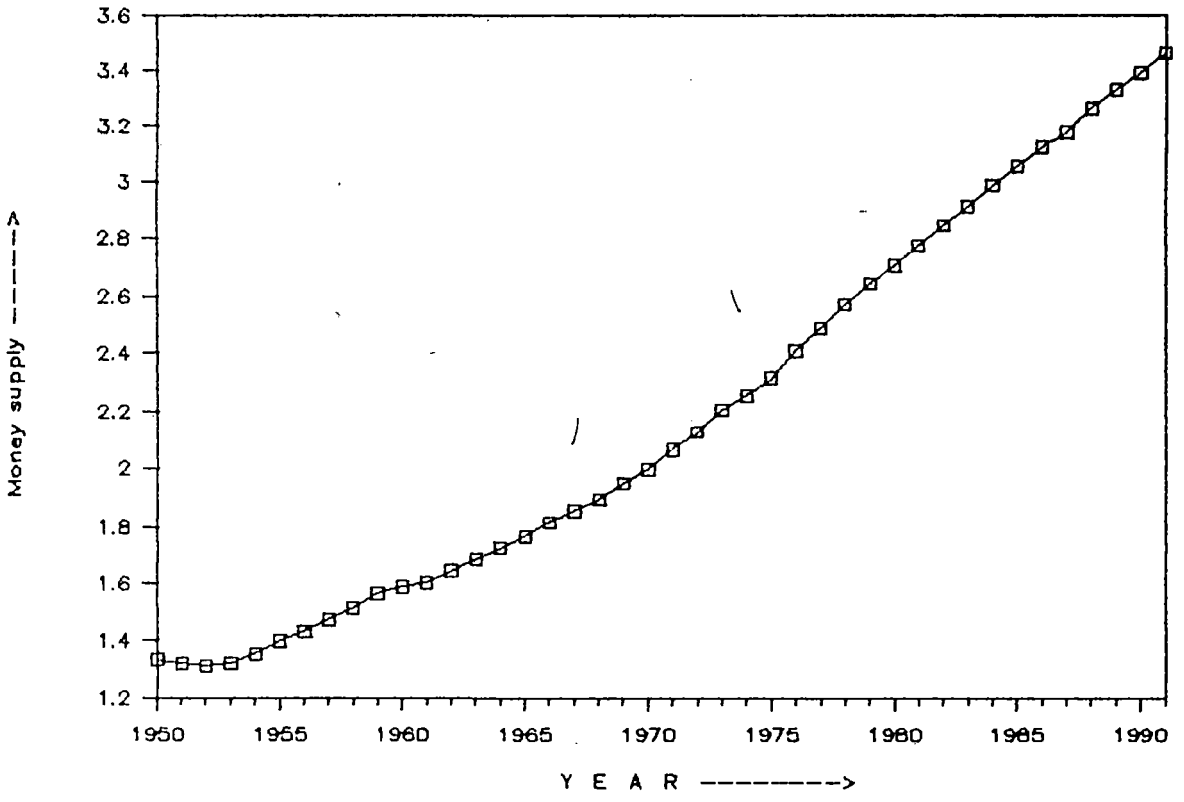

Fig . 1.1

TIME PLOT OF G N P (Y_t)

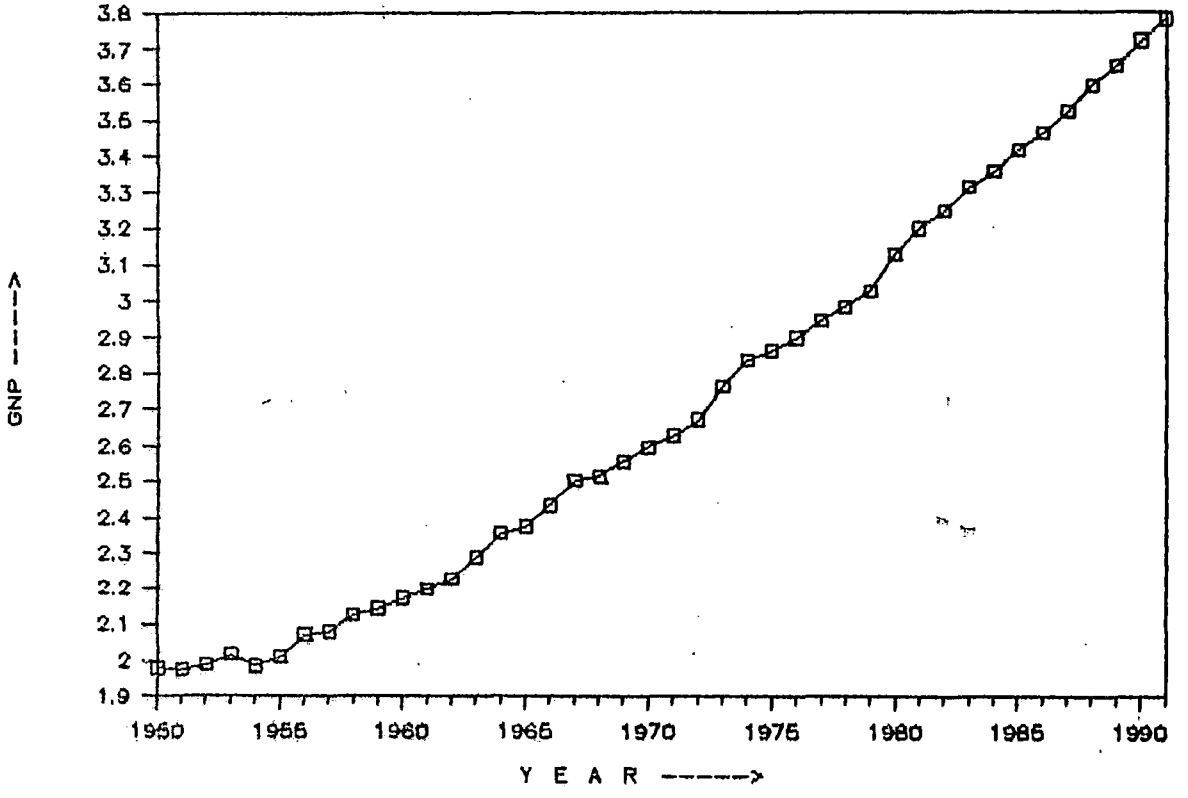

Fig . 1.2

TIME PLOT OF G N P (Y_t) AND MONEY SUPPLY (M_t)

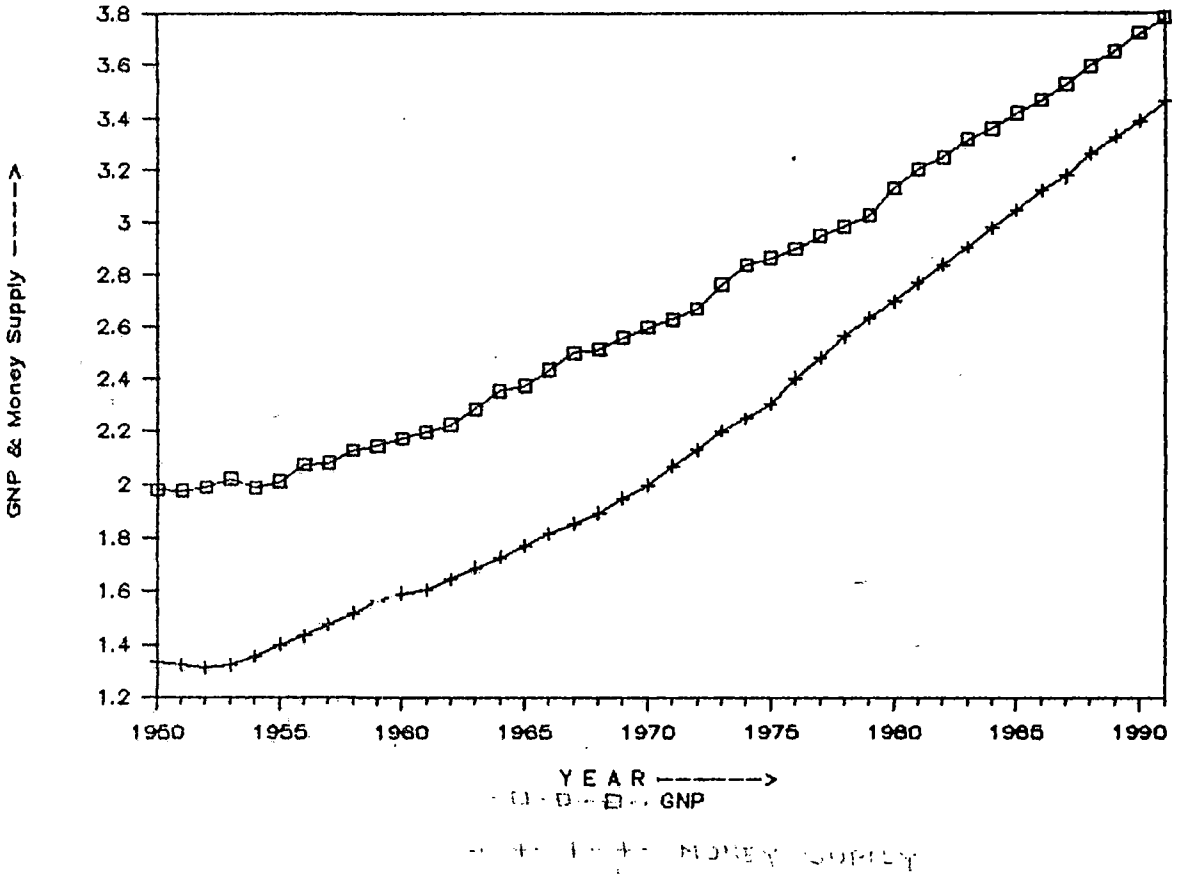

Fig . 1.3

TIME PLOT OF MONEY SUPPLY (M_t)

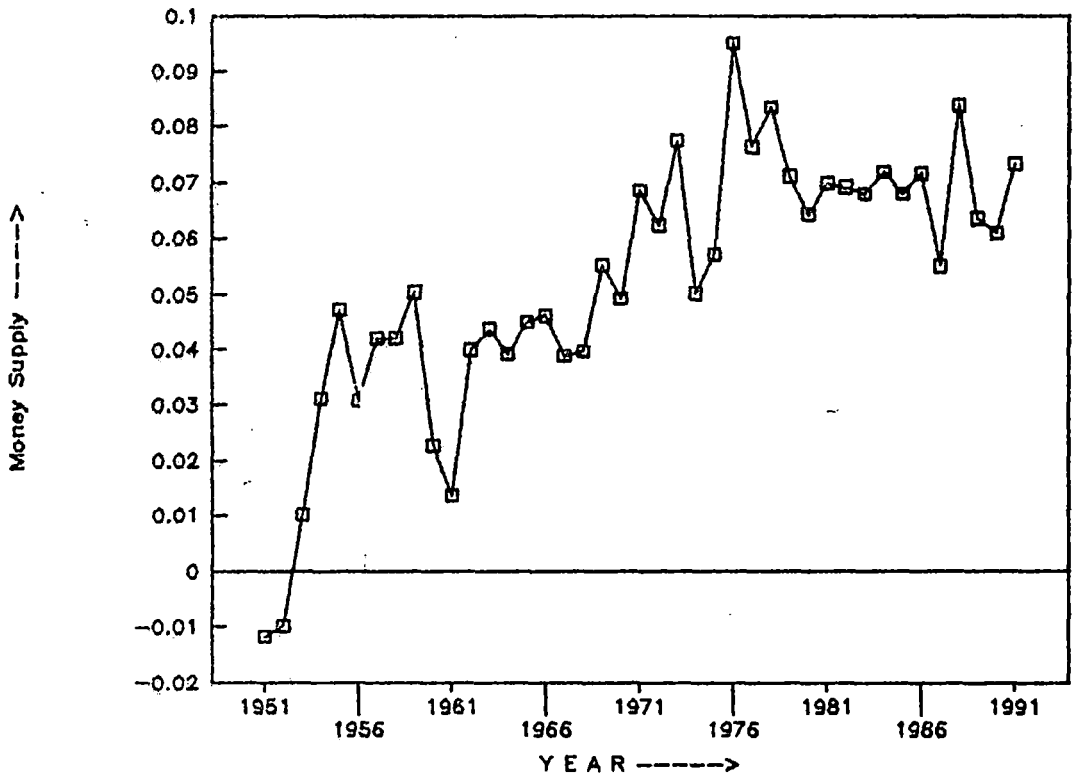

Fig . 1.4

TIME PLOT OF G N P (Y_t)

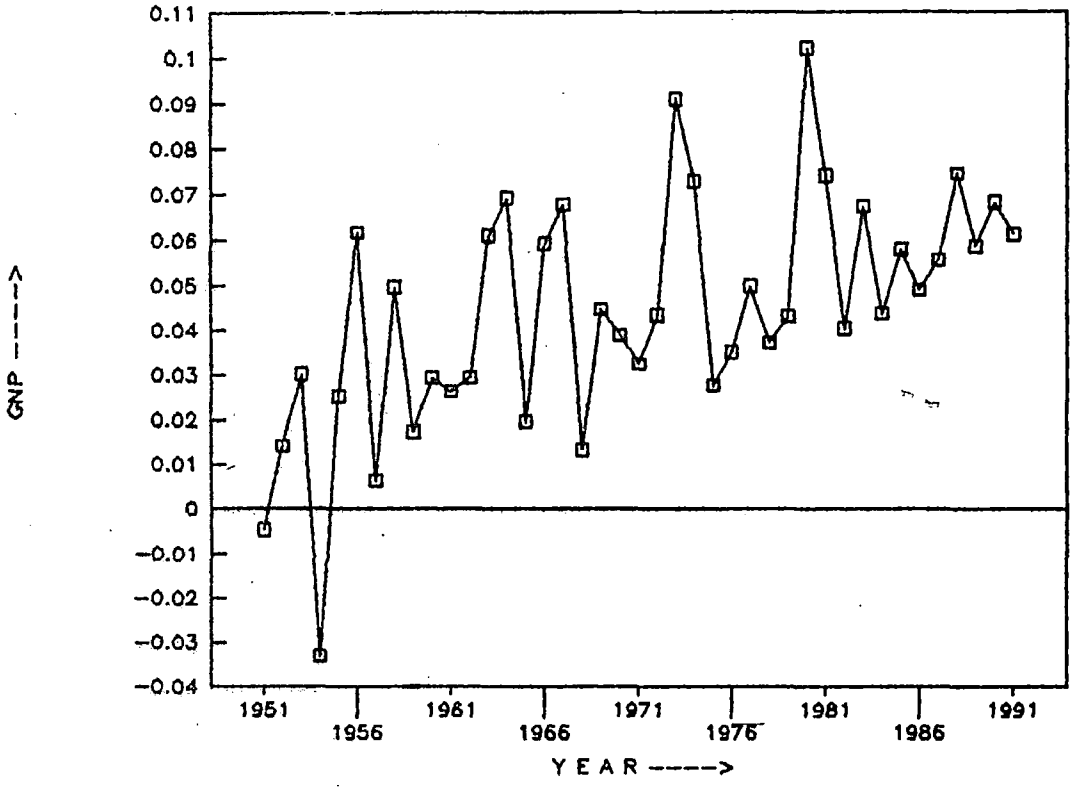

Fig . 1.5

TIME PLOT OF G N P (Y_t) AND MONEY SUPPLY (M_t)

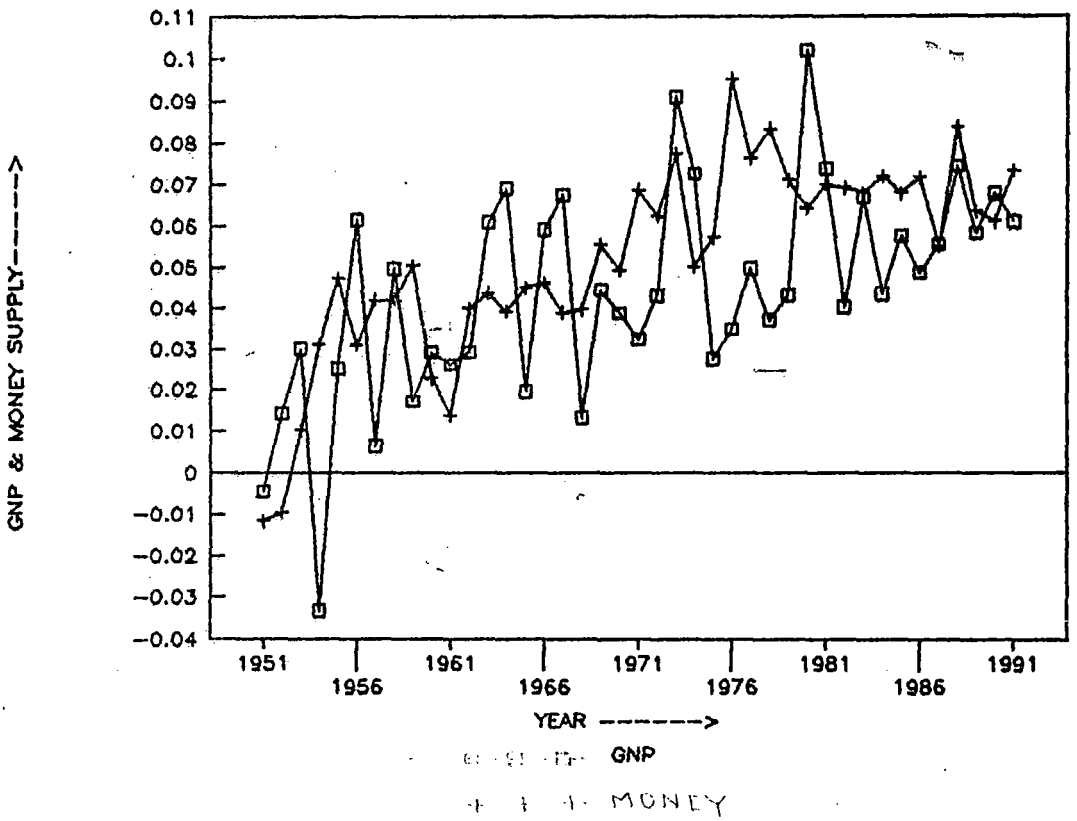

Fig . 1.6