CHAPTER - V

MONEY SUPPLY IN JORDAN

5.0 Introduction

This chapter is devided into four sections. Section one provides the theoretical background for this chapter with an emphasis on the theory of money supply determination Section two deals with the analysis of reserve money, its components and their relative behaviour Section three provides the details explanation of factors affecting reserve money and their contribution in influencing it. Section four relates the factors affecting RM to money supply and tries to highlight the process of change in money supply in Jordan.

5.1 Theoretical Background

From the output, employment and income generation point of view money is considered the most strategic variable In the presence of stable money demand function in the economy, changes in money stock would initially disturb the existing equilibrium of the economy, but ultimately would lead the economy to attain stable equilibrium, and income If idle resources exist in the economy, monetary changes would contribute to growth of output with price stability, a goal which is cherished by central monetary authority. The need for effective control of money supply, therefore, cannot be under estimated. Under the influence of Keynesian economics the entire issue of controlling

money supply was ignored. It was assumed to be a policy determined variable hence exogenous to the system In the post Keynesian period we do come across some literature on money supply analysis.

Until the late 1960s, the supply of money was treated as a policy variable determined by the monetary authorities. Indeed, in 1968 Johnson[1] remarked that the theory of money supply is a newly discovered area of monetary research. In recent years, however, substantial advancement has taken place in this field Few studies of great importance in this regard undertaken abroad are by Friedman and Schwarts[2], Cagan[3]. So it is now accepted that rather than considering money supply to be policy determined, it is determined jointly by the monetary authority, banks, and the public No doubt, the role of public and banks can not be ignored, nor even taken for granted.

5.1.1 Money Measure in Different Countries

As a preliminary to the study of the theory of money supply it is essential to provide an appropriate definition of money. Though it is one of the most controversial issues in economics, economic theory has not provided a clear cut, complete or unequivocal answer to this issue. With the passage of time, many innovations in respect of financial instruments, practices and institutions have accrued in different economies. Economists, have studied the implications for the role of money and monetary policy, the works of Gurley and Shaw and Radcliffe committee, is of relevant in this connection. Though, they have taken into consideration many empirical studies, but they also failed to provide an appropriate measure of money The result is that monetary authorities all over

the world present alternative measure of money which are reviewed and revised from time to time

The classification of monetary aggregate currently used by most of the central banks of various countries is based either on the functional characteristic of monetary assets or on the institutional distinction between banks and other financial intermediaries. A brief sketch of money stock measures in selected countries is presented below. In the USA, there are four major aggregates in use M_1, M_2, M_3 and L, while in the U.K, there are six ranging from M_0 to M_5. By convention, higher the number attached to M, the greater is the range of financial assets included and larger is the measure but lesser would be the degree of liquidity. In the USA, a narrow measure of money M_1, which reflect the medium of exchange function of money, is defined as M_1 = Currency (with the public) + Demand deposit + Other checkable deposits* + Travellers cheques

A second measure of money stock, M_2, which is more frequently used by the researcher in USA for empirical studies. M_2 is defined as

$M_2 = M_1$ + Saving deposits
+ Small denomination timed
+ Money market mutual fund
+ Money market deposit
+ Overnight repurchase agreement
+ Overnight Eurodollars issued to US residents

Broader measures of money stock include M_3 and L, which are defined as

* Other checkable deposit like negotiable order of withdrawal (Now) and Automatic Transfer Service (ATS) are deposit account that are in effect checkable.

M_3 = M_2 + Non-bank public holding of US saving bonds + Short term treasury securities + Commercial Papers + Bankers acceptances.

Among developing countries, Malaysian financial system has attained significant deepening and diversification. In Malaysia there are three monetary aggregates .

M_1 = Currency (with public) + Demand deposit

M_2 = M_1 + Saving deposit + Time deposits + Certificates of deposits

M_3 = M_2 + Deposits with finance companies + Deposits with merchant bank + Deposit with discount houses

Presently in Jordan the CBJ publishes money supply data under two heads M_i and M_2 Where M_1 = Currency in circulation + Demand deposits of banks and M_2 = M_1 + Q.M. (where Q.M is quasi money which is inclusive of saving deposits and time deposits of banks)

With the advancement in economic development, development of banking and financial institutions, development of capital markets in the recent past and the deepening of the financial market in Jordan, it would be more appropriate to use M_2 as the measure of money stock for the subsequent analysis purpose The view of monetarist who follow a broader concept of money as a temporary abode of purchasing power which includes time deposits with the banks along with currency and demand deposits in the money stock. Subsequent analysis is based on the broader concept of money used in Jordan, i.e. (M_2 = C+ DD + QM).

5.1.2 Review of Literature

Till recently, the debate continued on whether "the money supply" is or is not a quantity of such fundamental importance that the authorities can by regulating it, significantly affect the course of the economy. The pioneering work in this direction were carried out by Radcliff committee in the case of U.K and the historical work of Milton Friedman and Anna Jacobson Schwartz for United States

The Radcliffe committee, was appointed by the Chancellor of the Exchequer in May 1957 "to inquire into the working of [Britain's] monetary and credit system, and to make recommendations" The report presents a pioneering analysis of Britain financial system, in which the monetary system and money are considered as only part of a complex, but integrated. structure of financial institutions assets, and markets, and in which the monetary policy, debt management, and fiscal policy are treated as co-ordinating techniques of a general financial policy aimed at regulating spending through this financial structure Though the committee was of the opinion that as compared to money supply regulation the centre piece of monetary action is the level and structure of interest rates. But at the same time they also agreed that when economy is subject to run away inflation, monetary policy should be used vigorously. In such situations, lending should be restricted directly In fact the committee mearly provided a general theory of finance that explain the impact of financial variables on the post war British economy.

In the case of USA, the publication of "A Monetary History of the United States, 1867-1960", by Friedman and Schwartz, covers a period of more than ninety years Its documented and elaborated in their study that changes in money stock in USA results into

secular and cyclical fluctuations in the level of economic activity. According to them the phenomenon is too persistent to be dismissed as accidental, and it is explainable in terms of well known economic relationship Production and prices depend on monetary factors, and inturn fluctuations in general economic activity are transmitted by financial institutions to the money stock.

From any developing country's point of view, few studies undertaken in India in this direction are of great significance The relevant studies on the determination of money supply in India are by Gupta S B.[4], G S Gupta[5], Pathak[6], Pandit[7], Jadhav-Singh[8] and Rangarajan-Arif[9].

G.S. Gupta's study present a simple money multiplier model for India This model is used to quantify the relative contribution of fifteen direct determinants of money during the period 1948-68 Gupta comes out with the conclusion that over the period as a whole the increase in "unborrowed reserve" accounted for 85% of the growth of the quantity of money in India D S Pathak has constructed a model of the monetary system in India His work highlights that supply of money is seemed endogenous and that government fiscal operations in conjunction with the state of balance of payments determine money income.

Pandit's work on money supply also shows that reserve money is endogeneously determined by net Reserve Bank of India credit to the government and the RBI holding of net foreign assets which is in turn determined in the external sector Jadhav-Singh work is on the fiscal sector As per their study, to the extent that fiscal deficit is financed by net credit to government it leads of monetary expansion. With the partial adjustment process,

money stock in India thus is strongly related to fiscal deficit. Rangarajan-Arif's work focus on the interaction between monetary, fiscal and real sector in a closed economy frame work. Their work highlight that government expenditure adjusts more rapidly than receipts to a given change in price level. As a result, inflation leads to widen the fiscal deficit leading to larger money supply

In case of Jordan, there are few related studies carried out, the main findings are presented according to the study by Maher AL-Shaik Hassan[10], Ahmed Ibraheem Malwi Abdul Hadi[11] Amir Abu Rashid[12], AL-Khateep[13], AL-Shaik worked about the money supply and currency in circulation The work highlights the relation between the development of the monetary system and the economic development and finds positive relation between them. The study proposed recommendation that the expansion of the banking system and the improvement of its quality services in Jordan as a basic requirement The study also recommended flexible monetary policy by the CBJ through increasing the reserve and by limiting the credit proper supervision

Malwi worked on the role money supply and credit facilities in the Jordanian economy. The study tried to analyse the role played by the demand of public for currency on money supply and its effect on reduction of reserve and also reducing credit facilities and its effect on the reduction of money supply

Abu Rashid's work is about the supply of financial assets The study emphasises on the role of multiplier and monetary base in growth of highly liquid financial assets The author also examined the highly liquid and less liquid financial assets to find the relevant variables influencing their behaviour The study found that in case of Jordan multiplier is

found to be stable and it has not been a major factor operating on the supply side, where as high powered money is found to be a major determinant of highly liquid financial assets. For the entire period of study (1970-92), fiscal operations and state of balance of payment have been found to be the major factor influencing the monetary base This in turn is chiefly responsible for changes in supply of currency, demand deposit, time and savings deposits which form a part of highly liquid financial asset. AL-Khateep in his work proves that the monetary base will reduce if the desire of holding currency is high by the public This phenomena will have a negative effect on bank deposits and bank's reserve These will ultimately reduce the ability of central bank to control money supply

5.2 Money Supply Determination

Before we take up the study of the theory of money supply, it is necessary to understand the difference between two kinds of money,

a) Ordinary money (M) and

b) High powered money (H)

The ordinary money is partly the liability of the central monetary authority and the rest of the banking system High powered money (H) is produced by the CBJ and held by the public and banks. The High Powered money is also called "reserve money" (RM) H or RM is the sum of (i) currency held by the public (CU). (ii) cash reserves of Banks (R) Besides the banks actual reserves the currency held by the public is also included in reserve money because it could be readily transferred by them to the banks in exchange for

bank deposits, in which case, the banks reserves would increase by that much amount. In what follows a presentation of a widely held theory of money supply determination is done

The monetarist theory of money supply is given in the equation

$Ms = m.H$

where,

Ms = Nominal money stock,

m = money multiplier

H = nominal reserve money

In case of Jordan, broad money (M_2) is given by

$M_2 = m.H$

where,

m = broad money multiplier

H = reserve money

Accordingly, the broad money multiplier could be written as

$m = M_2 / H = (CU + DD + QM) / (CU + R)$

By definition $M_2 = CU + DD + QM$ and

$H = CU + R$

where R is reserve

QM is the total of saving and time deposits, so let us consider it TD only

Hence $m = (CU + DD + TD) / (CU + R)$

$= (CU + DD + TD) / CU + r (DD + TD)$

where r is reserve ratio

$= 1 + (CU/DD) + (TD/DD) / (CU/DD) + r (1+TD/DD)$

Let $C = (CU / DD)$

$t = TD / DD$

$\therefore m = 1 + C + t / C + r (1+t)$

"m" is a well defined function of three behavioural key ratios, C, t, and r. They are called estimate determinants of "m"[14]

where, C = CU / DD Currency deposit ratio, currency with the public as a ratio of demand deposit with banks

r = R / (DD + TD), the reserve deposit ratio, it is the ratio of total reserve to total demand and time liabilities of banks Total reserves of banks can be divided under two heads (i) required reserves, which banks are required statutarily to hold with the CBJ and (ii) excess reserves, that bank hold with themselves or with other banks to meet their cash withdrawal requirements So r, is an increasing function of the total demand and time liabilities of banks.

t = TD / DD, time deposits to demand deposit ratio

It is the public who decide how much time deposits to hold in relation to demand deposits, it shows the desire of the public for TD and DD. Though they are not ultimate determinants of "m" because these ratios themselves are functions of a few specifiable variables such as, rates of interest, the development of banking system, and banking habits of the public etc

In this general formulation, the money multiplier approach suggests that determinants of the money stock can be classified into two broad groups :- (i) Those that affects the money multiplier and (ii) Those that affect the reserve money Having arrived at this stage, now let us look into the details of money supply determinants and process in case of Jordan

5.3 Jordanian Experience

Money is a necessity for any modern economy It is equally so for a developing economy like Jordan. Over the years (1964-95), M_2 has grown at 16 15 per cent rate and this is considerably a high growth rate by any standards The predominance of currency in the total money supply in case of Jordan, restrict the effectiveness of monetary policy followed by the CBJ. As the monetary policy mainly operate through the credit policy of the CBJ, and currency forming a large proportion of money supply, banks have to face the problem of large leakage of currency every time they create credit In Jordan until 1970, by habit and custom associated with the paucity and backwardness of appropriate institutions, people preferred to make use of cash rather than cheques. This means that a major portion of the cash generally percolates into the economy without returning to the banking system in the form of deposits. This reduces the capacity of the banking system to create fresh credit on the basis of an increase in its reserves, so less effective will be the credit policy and hence so would be the monetary policy followed by the CBJ However, it needs to be noted that in recent years, the effectiveness of the monetary policy is on the increase This is largely because of the greater use of credit and the resulting decline of

currency in the total money supply. This has come about mainly due to the diversification of the economy and the growth of investment volume and development of financial market in terms of institutional instruments and practices the last being aided by CBJ

Until 1975, on an average, the relative share of currency in total money supply was more than 50 percent In fact during 1964-74 currency grew at a relatively higher rate than the total money supply in Jordan, the two growth rates were respectively 18 77 per cent and 15 36 per cent Since 1977 the relative share of currency in total money supply has fallen on continues basis from 40 per cent in 1977 to 20 per cent by 1995. But in case of demand deposit the relative share has fallen from 33 per cent in 1965 to 15 per cent by 1995 though after 1985 till 1995 it remained stable around 15 per cent. It is the relative share of QM in total money supply which needs more attention In the early years of our study its relative share in total money supply was around 1/4 which went up to 1/3 by 1978 and further up to 1/2 by 1984 while by 1995 it touched 2/3 relative figure. In short with the advancement of the Jordanian economy in general and financial market in particular the share of deposits money in total money supply has gone up, which a healthy sign of development, as it will enable the CBJ to enforce the credit policy more effectively and hence can formulate appropriate monetary policy for Jordan which in turn will enable the economy to attain higher rate of economic growth along with stability.

As stated above, the most acceptable theory of money supply determination .

$$Ms = m\,H$$

Clearly states that money supply is determined by two factors, m; the money multiplier and H, the base money or reserve money Though, "m" itself depends on some

crucial ratios like C/DD, R / (DD + TD) and TD/DD For the relative change in these ratios please refer Table 5.1* If these ratios attain relative stability the outcome "m" will also show stability then in that case the whole attention will be focused upon the study of H or reserve money only because in that case changes in reserve money alone will bring about changes in money supply, having stable money multiplier.

In case of Jordan, the "m" though, not stable in terms of its value, still it shows a stable tendency that year after year it went on rising, with some fluctuations with in it. The "m" which was 1 79 in the year 1965 remained 1 76 in the year 1978 with minor ups and downs on yearly basis (see Table 5 2) In the year 1982 it was 2.23 and by 1995 it went down to 1 76 once again with mild fluctuations The reason being none of the determining ratios of "m" have attained stability in relative terms, further this is because the preference of the public is still changing due to already known reasons and as the most crucial factor "r" also keeps on changing because of the central banks policy and banks own requirements. Unless and until these ratios attain relative stability the multiplier value (m) will keep on changing and it will also turn out to be an important force to alter the volume of money supply in Jordan Still it may take some time to attain stability in terms of "m" once the financial market is fully developed and the preference of the public also becomes stable in terms of various financial assets. As well, in this direction the role of CBJ can not be under estimated, as the variation in "r" is largely in the hands of CBJ along with the banks themselves. So if CBJ is to bring about stability in "m" so as to have

* Tables are presented at the end of each chapter

desired changes in money supply through reserve money only, then keeping in mind other related factors CBJ should alter "r" in such a way that "m" remains stable.

5.4 Analysis of Reserve Money

Another vital factor which can bring about changes in the stock of money in the system is reserve money (RM) which is also termed as the high powered money which conceptually provide base for further expansion of money supply

$$Ms = f(RM)$$

where. Ms = money supply

RM = Reserve money

In the case of Jordan as against 16 15 per cent annual increase in money supply (M_2) the reserve money has growth at the rate of 16 93 per cent which is marginally higher than the money supply growth This is another important factor which supports our conclusion that in Jordan the money multiplier is attaining stability, in fact over years it was on the rise Therefore in the relative sense it is the change in reserve money and volume which brings about sizeable changes in money supply and at times the change in reserve money composition also matter. In the following paragraphs a detailed explanation of reserve money and its composition in Jordan over years is presented

As stated earlier, the reserve money is defined as the sum total of currency in circulation, bank balances with commercial banks themselves In other words, reserve money represents those liabilities of the CBJ that are deemed to be held by banks for the purpose of deposit money creation in a system where the fractional reserve ratio governs the creation of deposit money

A detailed analysis of RM's components (Table 5.3 and 5 4) clearly shows that there are certain noticeable changes Currency with the public constitutes a major portion of RM Though it has risen continuously at a sizeable rate (13 80 per cent) on an average annual bass, but the rate of increase in currency was slower than the rate of increase in RM (16 93 per cent) This is also clearly seen from decline in relative share of currency in total RM year after year. Although, currency used to constitute 74 per cent in total RM in the year 1965, year after year its relative share has fallen in total RM and by 1995 it was only 36 per cent of total RM (Table 5 4)

A fall in currency proportion in total RM is a healthy sign for money/financial market development and particularly for banking sector development The banks deposits with the CBJ is another major components of RM Owing Portly to the statutory requirements cash reserves have grown with the CBJ Between 1965 to 1995 bank deposits with CBJ have increased by 224 times, while the RM has shown an increase of 80 5 times only Looking at the annual average growth rates we find that the growth rate of bank deposits with CBJ (24 29 per cent) is higher than the growth rate of RM (16 93 per cent) Once again it tells about the improving health of the banking system in Jordan

Higher bank deposits with CBJ reflects the capacity of banks to create additional credit money in Jordan At the same time it reflects the strength of the CBJ to implement credit policy and hence the monetary policy more effectively.

The rapid growth in the bank deposits with the CBJ has resulted into sizeable variation in its share in total RM during the period of our study Though the relative share of bank deposits with CBJ has shown wide fluctuations, still its average growth rate

throughout the period of our study, not only surpassed the other two components of reserve money, but its growth was much more than that of RM itself. The relative share of bank deposits with CBJ was around 15 per cent of RM during 1969 but touched a high of 23% in 1977 and then started falling and reached to 14 per cent level by 1990 After 1991 not only it has started rising once again but its share became sizeable enough. It was 55% in the year 1993 while it reached to 60% of total RM in 1995. Rapid rise in bank balances with CBJ during 1993-95 was also due to reclassification of monetary data According to the new definition of monetary sectors (up to 1992, bank balances with CBJ were restricted only to JD) bank balances with CBJ are JD and foreign currency as well

An increase in the bank balances with CBJ will compel the bank, to go for less credit creation, and will enable the CBJ to exercise the monetary policy more effectively, provided they are not able to attain more deposits from the public The relative change in RM composition clearly reveals that banks in Jordan are efficient enough to attract the public money in the form of deposits which is also supported by a fall in currency ratio (Table 5 4). That is why, though off late CBJ has increased the reserve ratio to curtail the excessive credit creation by commercial banks in Jordan, it turned out to be less effective, perhaps due to the efficient mobilisation of public deposits by the commercial banks, allowing them to maintain high volume of credit

The balances with commercial banks is the third constituent of RM Here basically banks need to meet the sudden demand for cash withdrawal from the banking system. Until 1976 it's relative share in RM was less than 5%, in fact between 1969 to 1973 its share was less than 1 per cent Between 1978 to 1990 its relative share was around 15 per

cent in total RM Though after 1991 its share has started falling and so in 1995 it was 4.7 per cent of RM During 80's a high relative share was mainly due to the expansion in bank branches and heavy withdrawal of cash from banks After 1991 the fall in its relative share in total RM is considered to be a healthy outcome because banks now do not keep larger part of their assets in the form of idle cash, lesser idle cash with commercial banks enable them to go for more loans and advances, thus providing them an opportunity to earn more returns

Looking at the present state of Jordanian economy, it is very essential for the monetary authority to have a fair control over money supply in order to check the rate of inflation and to promote better resource allocation The monetary authority can successfully check the volume of total money by altering the composition of RM or by controlling the growth of RM The above analysis of RM reveals that though there was not much significant change in RM composition in Jordan in 60's and 70's, only during 80's and more specifically during the early 90's to check the rate of inflation in Jordan, monetary authority tried to restrict the volume of credit money in Jordan and for which they adopted the 'tight money policy', compelling commercial banks to keep larger cash balances by way of rise in reserve requirement That is the reason the share of bank deposits with the CBJ became highly significant during early 90's It seems that monetary authority feels that regulation of RM will go a long way to enable them to have a desirable control on money supply To support the above argument we use regression results of RM and broad money volume in Jordan. The regression equations with reserve money as independent variable are presented below

Broad money as a function of the RM reveals the following result changes. RM explain 97 per cent of variations in M_2. On average, one unit increase in RM leads to 1 9 units increase in M_2 and the coefficient is significant at 1% level

$$M_2 = 75\ 41 + 1\ 90\ RM$$
$$(33.82)^{**}$$

$R^2 = 0\ 97$ DW = 0 754 F Ratio = 1143

In fact the double log estimation of RM and M_2 provides a more precise result

$$\text{Log } M_2 = 0\ 102 + 1\ 085 \log (RM)$$
$$(58\ 06)^{**}$$

$R^2 = 0\ 99$ DW = 0 402 F Ratio = 3370 7

The above regression equation reveals that the elasticity of M_2 with respect to RM is greater than unity (1.085)

While the responsiveness of broad money to a given change in RM is becoming less pronounced which means that the variation in broad money due the changes in RM is on decline

$$\Delta M_2 = 110\ 23 + 0\ 58\ \Delta RM$$
$$(3\ 64)^{**}$$

$R^2 = 0.31$ DW = 1 4846 F Ratio = 13 26

** - Significant at 1% level

The above regression estimates of RM and broad money in Jordan states that there is a strong positive relationship between RM and broad money in Jordan, so, for policy formulation, it is a signal to the authority that in Jordan too the growth of broad money can be preferably regulated by controlling the growth of RM However, it should be

mentioned here that for all the three equations the value of DW is quiet low exhibiting negative autocorrelation

5.5 Sources of RM

The CBJ does not provide separate data on RM and its sources The researcher works on this section taking clues from the works done in India by various scholars and by using the Reserve Bank of India (RBI) classification of data For the purpose of this analysis the data published by CBJ and various ministries are compiled Based on the Indian monetary experiences and the procedure followed by the RBI, RM in India also be defined as

RM . i) Reserve Bank Credit to Government

ii) Net foreign exchange reserve of RBI

iii) Government currency liability

iv) Net non monetary liability of RBI

Of these, first three are positively related while the fourth is negatively related with RM. The researcher have followed the same procedure to estimate the volume of RM (ERM) in Jordan It is done in order to know the factors that bring about changes in RM Broadly the sources are central bank of Jordan's may be defined as

i) Credit to Government* (CG)

ii) Credit to Commercial Banks (CCB)

* Inclusive of Municipalities and Public Entities

iii) Credit to Financial Institutions and others (CFI)

iv) Foreign Exchange Assets (FEA)

v) Capital Reserves and Allowances (CR)

$$ERM = CG + CCB + CFI + FEA - CR$$

Tables 5 5 and 5 6 present the data pertaining to the major factors influencing ERM These are the foreign exchange assets of CBJ (FEA), CBJ's credit to government (CG) and commercial banks (CB) and to some extent it is the CBJ's capital reserves (CR). Though an increase in CR by CBJ will have a negative influence on the creation of RM and hence similar influence on broad money supply creation, but its share in RM is not very high, so that it can bring about any sizeable influence on over all position Though in the year 1990 and very recently i.e. in 1995 its relative influence on total RM is considered be significant

The major source of changes in RM is the foreign exchange assets of CBJ, though the average growth rate of FEA between 1964-95 was 19.64% which was higher than the growth rate of RM (16 93%) The other factors that brought about changes in RM were CBJ's credit to government, banks and other credit institutions Though these sources were not much active in 60's it is only during 1970's and afterwards they started playing an active role in influencing the volume of RM Credit to government by CBJ started in the year 1970 while credit to licensed banks and other financial institutions became significant since 1972 Therefore their relative growth rate estimated for concerned period brings about significant influence on RM In case of CBJ's credit to government, its

relative average growth between 1970-95 was 21 47% baring the year 1973, higher than the growth rate in RM, CBJ's credit to banks between 1972-95 rose by 19.75% while that of other financial institutions showed an increase of 17 66%. In both the cases the average growth rate was higher than the growth rate in RM.

Due to non-uniform growth of various sources of RM, their relative shares in total RM have undergone a sizeable change during the period of our study Until 1972, it was the FEA of CBJ which were largely responsible for the changes in RM In fact the relative share of FEA in RM was greater than 1, the increase in foreign exchange asset of CBJ not only added to the RM expansion but a part of it was diverted to increase the reserve of CBJ After 1973 the relative share of FEA in RM started declining and it continued up to 1988 and by that time the relative share went down to 26% However it should be noted that FEA is the largest constituent of RM and still continues to be so. It was after 1989 once again the relative share of FEA in total RM started improving and by the year 1995 it improved up to 75% of the total RM Though the credit to government, banks, and other financial institutions by CBJ became active sources of RM changes but during 80's it was the CBJ's credit to government which became prominent source of RM changes That is why it's relative share in RM increased from 17% in 1981 to 61% in the year 1988, in the same year the share of FEA was only 26% and RM grew at the rate of 16 5% Though after 1988 the relative share of CG started falling as proportion of total RM. Credit to banks and other financial institutions was much significant during 80s, the share of credit to banks increased from 3% in 1981 to 40% by 1990 but went down continuously there after and by 1995 its relative share was 12% only The credit to other financial institutions

was around 8 to 9 per cent during 80s but its share also showed a decline and by the year 1995 it was only 1% of total RM. The reserve of the CBJ certainly played a balancing role in the determination of RM but its relative share being small its influence was not much significant except for the years 1980-1982 and 1989 and 1990

The above analysis of total RM and the relative influence of major sources of reserve money very clearly highlights that it is the foreign assets holding of the CBJ which is the main basis of RM and any change in it definitely brings about sizeable changes in RM To understand this phenomena further the regression results are presented

$$\text{Log (RM)} = -0\ 807 + 1.214\ \text{Log (FEA)} \quad (16\ 69)^{**}$$

$R^2 = 0.903$ DW = 0.411 F Ratio = 278 72

The above estimated regression equation states that elasticity of RM with respect to FEA of CBJ is 1 214 which is greater than unity.

$$\Delta RM = 43\ 08 + 0\ 724\ \Delta FEA \quad (8\ 76)^{**}$$

$R^2 = 0.726$ DW = 1.5731 F Ratio = 76 75

** - Significant at 1% level.

As well the marginal impact of ΔFEA is positive on ΔRM, it's responsiveness is more than 0.7 which is sizeable and statistically significant too These very much support our contention that the major and highly influential source of change in RM is the foreign exchange assets holding of the CBJ, but at the same time one should not ignore the influence of CBJ's credit to government, commercial banks and other financial institutions

No doubt their relative share in total RM is relatively less still they have the capability to bring about changes in RM

(a) $\text{Log (RM)} = 3.827 + 0\ 567\ \underset{(18\ 94)^{**}}{\text{Log (CG)}}$

$R^2 = 0\ 937$ DW = 1 0866 F Ratio = 358.57

(b) $\text{Log (RM)} = 4\ 769 + 0\ 475\ \underset{(17.20)^{**}}{\text{Log (CCB)}}$

$R^2 = 0\ 934$ F Ratio = 295 99

** - Significant at 1% level

The above regression outcome states that the responsiveness of RM to a given change in credit to government and commercial banks is less than proportionate In case of credit to government it is 0 567 and it is 0 475 in case of credit to commercial banks. The estimated results are statistically significant as the corresponding 't' values are significant and the equations have high R^2 values. So it further supports the contention that the foreign currency assets holding of CBJ is the prime source of changes in RM in the Jordanian Economy

It is known to us that to a sizeable extent the Jordanian economy depends on foreign assistance either in the form of external aid or external loans[15] A major portion of these assistance is diverted to meet the government revenue deficit (See Table 5 7).

Between 1971 to 1990 except for 1976, 1986, 1987 and 1988, foreign aid and loans taken together used to take care of almost 80% to 90% of government revenue deficit In fact 1991 onwards the inflow of aid and loans exceeded the government

revenue deficit, and in the year 1993 the foreign aid and loans covered only 64% of the GERT

In the year 1995, FAFL was more than double of GERT and it was mainly due to heavy borrowing from outside world

Not only the inflow of foreign assistance is directly related to the government revenue deficit (GERT) The responsiveness of foreign assistance is almost unitary to the revenue deficit of the government in Jordan

$$FAFL = 34\ 79 + 0\ 76\ (GERT)$$
$$(6\ 190)^{**}$$

$R^2 = 0\ 561$ DW = 0 935 F Ratio = 38 31

$$Log\ (FAFL) = 0.056 + 0.97\ Log\ (GERT)$$
$$(16\ 16)^{**}$$

$R^2 = 0\ 897$ DW = 1 279 F Ratio = 261 25

** - Significant at 1% level.

To meet the revenue deficit the Jordanian government depends heavily on the foreign assistance mainly because a large part of the government expenditure is on imported goods only. Table 5 7 represents the government revenue deficit and the relative position of Jordan in its trade balance and service balance and trade account balance. In fact, the government revenue deficit exceeds the government capital expenditure meaning that to meet a part of current expenditure government has to resort to deficit financing Right from 1964 to 1991 GERT remained larger than the government capital expenditure It was only after 1992 GERT fell short of government capital expenditure Through out

the period of our study Jordan experienced continuous rise in its balance of trade deficit as well as in the service and trade balance deficit A long term government revenue deficit added to balance of trade and service deficit compelled the Jordanian economy to depend heavily on external assistance by way of aid and loans Table 5 8 presents a comparative picture of Jordanian balance of trade and inflow of foreign exchange via aid and foreign loans. The inflow of foreign aid and loan was so high that except for the year 1986, 1989 and 1995 it normally exceeded the deficit sum The inflow of aid and loan was so heavy that not only it helped Jordan to overcome its current account deficit but for many years it provided a surplus in balance of payment accounts

A) Log FAFL = 0 348 + 0 805 Log (DTB)
(16 252)**

R^2 = 0 898 DW = 1 608 F Ratio = 264 14

DTB = Deficit in Trade Balance

B) Log FAFL = 0 097 + 0 988 Log (DST)
(15 568)**

R^2 = 0.890 DW = 1 969 F Ratio = 242 36

DST = Deficit in Service and Trade

** - Significant at 1% level

The inflow of foreign assistance to Jordan can be explained in a better way by relating it to the deficit in Trade and Service balance.

The positive and strong relationship between government revenue deficit and trade balance deficit as well as with the service and trade balance deficit for years have been observed in case of Jordanian economy This experience postulates that there is a strong relationship among government revenue deficit, inflow of foreign assistance by way of aid and loans and the foreign currency assets of CBJ and the RM (Table 5 9) This can be expressed in the form of flow diagram as follows.

Revenue Deficit $\Rightarrow$ Inflow of foreign assistance $\Rightarrow$ ΔRM $\Rightarrow$ ΔMs

(Change in RM $\Rightarrow$ Change in money supply)

At last, but not the least, the major portion of RM in Jordan is currency with the public Over years the volume of currency in circulation have shown a very strong and significant relationship with total financial assistance from abroad

$$\text{Log (CU)} = 0.215 + 1\ 07\ \text{Log (FAFL)} \quad (19\ 473)^{**}$$

$R^2 = 0.927$ DW = 1 323 F Ratio = 379 21

** - Significant at 1% level

The currency elasticity to foreign assistance is greater than one Further as compared to foreign loans the responsiveness of currency to given change in foreign assistance is much more. It seems that the monetary authority of Jordan manage the flow of external loans to Jordan after taking into account the flow of aids, so it is more of adjustment instrument

$$\text{Log (CU)} = -0.128 + 1.254 \underset{(12.57)^{**}}{\text{Log (FA)}}$$

$R^2 = 0.840$ DW = 1.053 F Ratio = 158.02

$$\text{Log (CU)} = 2.931 + 0.708 \underset{(16.218)^{**}}{\text{Log (FL)}}$$

$R^2 = 0.898$ DW = 1.079 F Ratio = 263.04

** - Significant at 1% level.

The responsiveness of currency to foreign aid is greater than one (1.25) while the same in case of foreign loans is 0.708 only. Which implies that foreign aids to Jordan will have higher expansionary impact on currency, so on the RM and hence sizeable influence on money supply

5.6 Conclusion

This chapter provides the basic understanding of the money supply process in Jordan and highlights the major factors that bring about changes in RM and money supply in Jordan.

During the period of the study (1964-1995) broad money has grown at a relatively higher rate as compared to the growth of real output in Jordan Therefore in order to restore relative stability it is essential to regulate the money supply adequately In order to achieve this it became necessary to go into the details of the factors and the process by which the RM in Jordan changes and so the money supply

The above analysis reveals that in the case of Jordan, to meet the revenue deficit of the government internal sources were not enough and so the country very frequently relied upon the foreign assistance by way of aids and loans. This foreign currency inflow added to the foreign exchange holding of CBJ resulting into expansion of RM and larger creation of money in Jordan Further, in between foreign aid and foreign loans it was seen that foreign aid is more expansionary in outcome in terms of change in RM as compared to the foreign loans. Hence, apart from controlling other factors, it is almost important to regulate foreign aid and loans to have an effective regulation over RM and hence the regulation of money supply in Jordan.

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Table 5.1 : Total Bank Deposits and its Components (JD Million)

Year	TR	CU	DD	QM	TBD (DD+QM)	C/DD	QM/DD	TBD/TR
1964	3.90	23.00	16.80	13.80	30.60	1.37	0.82	7.85
1965	9.50	26.40	20.80	17.00	37.80	1.27	0.82	3.98
1966	13.90	30.30	25.70	19.80	45.50	1.18	0.77	3.27
1967	17.70	51.50	23.70	18.80	42.50	2.17	0.79	2.40
1968	16.60	63.50	24.50	20.90	45.40	2.59	0.85	2.73
1969	13.10	71.30	25.00	22.70	47.70	2.85	0.91	3.64
1970	13.20	82.40	23.00	23.70	46.70	3.58	1.03	3.54
1971	15.20	83.00	25.00	27.10	52.10	3.32	1.08	3.43
1972	17.50	81.50	33.50	31.50	65.00	2.43	0.94	3.71
1973	17.10	97.50	40.90	36.80	77.70	2.38	0.90	4.54
1974	27.40	115.50	55.80	47.80	103.60	2.07	0.86	3.78
1975	43.40	139.00	84.50	63.80	148.30	1.64	0.76	3.42
1976	59.00	161.40	114.00	101.50	215.50	1.42	0.89	3.65
1977	80.60	188.00	139.80	136.60	276.40	1.34	0.98	3.43
1978	125.60	219.50	150.00	231.30	381.30	1.46	1.54	3.04
1979	146.40	275.40	182.00	300.40	482.40	1.51	1.65	3.30
1980	174.50	351.60	225.20	390.00	615.20	1.56	1.73	3.53
1981	199.40	412.30	280.10	478.20	758.30	1.47	1.71	3.80
1982	159.60	470.00	305.10	615.80	920.90	1.54	2.02	5.77
1983	214.50	516.00	338.70	745.80	1084.50	1.52	2.20	5.06
1984	215.60	530.50	336.80	879.30	1216.10	1.58	2.61	5.64
1985	292.80	531.80	308.40	1026.60	1335.00	1.72	3.33	4.56
1986	335.10	583.90	310.70	1175.30	1486.00	1.88	3.78	4.43
1987	352.00	655.80	322.90	1392.40	1715.30	2.03	4.31	4.87
1988	362.90	811.20	353.70	1465.40	1819.10	2.29	4.14	5.01
1989	498.70	871.10	425.40	1644.60	2070.00	2.05	3.87	4.15
1990	427.80	1006.20	413.90	1689.80	2103.70	2.43	4.08	4.92
1991	770.50	992.40	583.80	2117.10	2700.90	1.70	3.63	3.51
1992	846.60	1003.90	685.90	2476.90	3162.80	1.46	3.61	3.74
1993	1562.40	1047.90	762.30	2748.70	3511.00	1.37	3.61	2.25
1994	1642.50	1072.60	764.50	3095.30	3859.80	1.40	4.05	2.35
1995	1896.50	1050.90	772.90	3414.20	4187.10	1.36	4.42	2.21

Note : TR - Total reserves, CU - Currency, DD - Demand Deposits,
Q.M. - Quasi Money, TBD - Total Bank deposits.

Table 5.2 : Reserve Money & Money Supply Relationship (JD Million)

Year	M2	RM	M2/RM
1964	53.60	26.90	1.99
1965	64.20	35.90	1.79
1966	75.80	44.20	1.71
1967	94.00	69.20	1.36
1968	108.90	80.10	1.36
1969	119.00	84.40	1.41
1970	129.10	95.60	1.35
1971	135.10	98.20	1.38
1972	146.60	99.00	1.48
1973	176.10	114.60	1.54
1974	219.90	142.90	1.54
1975	288.40	182.40	1.58
1976	378.40	220.40	1.72
1977	467.60	268.60	1.74
1978	606.70	345.10	1.76
1979	773.10	421.80	1.83
1980	984.80	526.10	1.87
1981	1179.90	611.70	1.93
1982	1403.30	629.60	2.23
1983	1615.20	730.50	2.21
1984	1757.70	746.10	2.36
1985	1874.80	824.60	2.27
1986	2072.40	919.00	2.26
1987	2372.20	1007.80	2.35
1988	2646.80	1174.10	2.25
1989	2971.10	1369.80	2.17
1990	3122.60	1434.00	2.18
1991	3717.50	1762.90	2.11
1992	4193.00	1850.50	2.27
1993	4481.80	2610.30	1.72
1994	4841.50	2715.10	1.78
1995	5159.80	2926.90	1.76

Table 5.3 : Reserve Money, its Components and their Growth Performance (JD Million)

Year	Currency in Circulation (CU)	Bank Balances with CBJ (BBCBJ)	Balances with Commercial Banks (BCB)	RM (2+3+4)	Annual Growth Rate (CU)	Annual Growth Rate (BBCBJ)	Annual Growth Rate (BCB)	Annual Growth Rate (RM)
1	2	3	4	5	6	7	8	9
1964	23.00	0.30	3.60	26.90				
1965	26.40	7.80	1.70	35.90	14.78	2500.00*	-52.78	33.46
1966	30.30	13.30	0.60	44.20	14.77	70.51	-64.71	23.12
1967	51.50	16.90	0.80	69.20	69.97	27.07	33.33	56.56
1968	63.50	15.70	0.90	80.10	23.30	-7.10	12.50	15.75
1969	71.30	12.60	0.50	84.40	12.28	-19.75	-44.44	5.37
1970	82.40	12.90	0.30	95.60	15.57	2.38	-40.00	13.27
1971	83.00	14.90	0.30	98.20	0.73	15.50	0.00	2.72
1972	81.50	17.30	0.20	99.00	-1.81	16.11	-33.33	0.81
1973	97.50	16.30	0.30	114.60	19.63	-2.89	50.00	15.76
1974	115.50	22.30	5.40	142.90	18.46	30.95	1700.00*	24.69
1975	139.00	32.90	10.50	182.40	20.35	49.55	94.44	27.64
1976	161.40	50.60	8.40	220.40	16.12	53.80	-20.00	20.83
1977	188.00	63.10	17.50	268.60	16.48	24.70	108.33	21.87
1978	219.50	76.60	49.00	345.10	16.76	21.39	180.00	28.48
1979	275.40	95.10	51.30	421.80	25.47	24.15	4.69	22.23
1980	351.60	109.60	64.90	526.10	27.67	15.25	26.51	24.73
1981	412.30	106.50	92.90	611.70	17.26	-2.83	43.14	16.27
1982	470.00	107.90	51.70	629.60	13.99	1.31	-44.35	2.93
1983	516.00	121.50	93.30	730.50	9.79	12.60	79.88	16.03
1984	530.50	124.20	91.40	746.10	2.81	2.22	-1.72	2.14
1985	531.80	148.60	144.20	824.60	0.25	19.65	57.77	10.52
1986	583.90	167.90	167.20	919.00	9.80	12.99	15.95	11.45
1987	655.80	167.60	184.40	1007.80	12.31	-0.18	10.29	9.66
1988	811.20	134.70	228.20	1174.10	23.70	-19.63	23.75	16.50
1989	871.10	240.10	258.60	1369.80	7.38	78.25	13.32	16.67
1990	1006.20	200.60	227.20	1434.00	15.51	-16.45	-12.14	4.69
1991	992.40	604.10	166.40	1762.90	-1.37	201.15	-26.76	22.94
1992	1003.90	708.30	137.60	1850.50	1.16	17.33	-17.19	4.97
1993	1047.90	1447.20	115.20	2610.30	4.38	104.18	-16.40	41.06
1994	1072.60	1536.70	105.80	2715.10	2.36	6.18	-8.16	4.01
1995	1050.90	1760.00	136.50	2926.90	-2.02	14.53	29.02	7.80
	Trend Growth Rate				Average Annual Growth Rate			
1964-95	12.76	18.03	23.95	14.57	13.80	24.29	12.93	16.93
1964-74	15.89	22.62	-10.24	14.81	18.77	13.28	-13.94	19.15
1975-84	16.31	13.27	26.59	16.52	16.67	20.22	47.09	18.31
1985-95	7.09	29.92	-4.51	13.35	6.68	38.00	6.31	13.66

* Base Year value is very less, hence a high and unrealistic growth rate

Table 5.4 : Reserve Money and its Components - relative behaviour

Year	CU/RM	BBCBJ/RM	BCB/RM
1	2	3	4
1964	0.86	0.01	0.13
1965	0.74	0.22	0.05
1966	0.69	0.30	0.01
1967	0.74	0.24	0.01
1968	0.79	0.20	0.01
1969	0.84	0.15	0.01
1970	0.86	0.13	0.00
1971	0.85	0.15	0.00
1972	0.82	0.17	0.00
1973	0.85	0.15	0.00
1974	0.81	0.15	0.04
1975	0.76	0.18	0.06
1976	0.73	0.23	0.04
1977	0.70	0.23	0.07
1978	0.64	0.22	0.14
1979	0.65	0.23	0.12
1980	0.67	0.21	0.12
1981	0.67	0.17	0.15
1982	0.75	0.17	0.08
1983	0.71	0.17	0.13
1984	0.71	0.17	0.12
1985	0.64	0.18	0.17
1986	0.64	0.18	0.18
1987	0.65	0.17	0.18
1988	0.69	0.11	0.19
1989	0.64	0.18	0.19
1990	0.70	0.14	0.16
1991	0.56	0.34	0.09
1992	0.54	0.38	0.07
1993	0.40	0.55	0.04
1994	0.40	0.57	0.04
1995	0.36	0.60	0.05

Table 5.5 : Factors affecting Reserve Money (JD Million)

Year	Foreign exchange Assets of CBJ	Credit to Government	Credit to Banks	Credit to Institution & others	Net Non Monetary liability	ERM	Annual Growth Rate [FEA]	[CG]	[CB]	[CIO]	[NNML]	ERM
	[FEA]	[CG]	[CB]	[CIO]	[NNML]	(2+3+4+5-6)						
1	2	3	4	5	6	7	8	9	10	11	12	13
1964	25.80	0.00	0.00	0.00	1.10	24.70						
1965	49.00	0.00	0.00	0.00	3.20	45.80	89.92				190.91	85.43
1966	58.80	0.00	0.10	0.00	3.10	55.80	20.00				-3.13	21.83
1967	87.20	0.00	0.00	0.10	3.20	84.10	48.30				3.23	50.72
1968	101.60	0.00	0.00	0.10	3.70	98.00	16.51			0.00	15.63	16.53
1969	93.70	0.00	0.00	0.10	4.60	89.20	-7.78			0.00	24.32	-8.98
1970	91.30	1.70	1.70	0.10	4.70	90.10	-2.56			0.00	2.17	1.01
1971	88.80	3.10	1.30	0.50	8.50	85.20	-2.74	82.35	-23.53	400.00	80.85	-5.44
1972	96.40	1.90	0.40	1.00	4.80	94.90	8.56	-38.71	-69.23	100.00	-43.53	11.38
1973	99.70	16.90	0.00	2.40	8.40	110.60	3.42	789.47	-100.00	140.00	75.00	16.54
1974	109.40	11.90	0.00	4.20	7.50	118.00	9.73	-29.59		75.00	-10.71	6.69
1975	160.50	14.90	0.00	4.60	7.80	172.20	46.71	25.21		9.52	4.00	45.93
1976	182.30	20.40	4.30	7.50	14.30	200.20	13.58	36.91		63.04	83.33	16.26
1977	229.20	35.10	6.50	9.40	20.00	260.20	25.73	72.06	51.16	25.33	39.86	29.97
1978	286.30	45.50	8.60	10.40	26.60	324.20	24.91	29.63	32.31	10.64	33.00	24.60
1979	370.80	35.90	7.20	11.60	34.30	391.20	29.51	-21.10	-16.28	11.54	28.95	20.67
1980	418.10	78.90	10.00	13.30	46.30	474.00	12.76	119.78	38.89	14.66	34.99	21.17
1981	433.60	85.70	14.90	23.20	51.30	506.10	3.71	8.62	49.00	74.44	10.80	6.77
1982	372.90	122.60	36.30	35.80	64.30	503.30	-14.00	43.06	143.62	54.31	25.34	-0.55
1983	408.50	146.60	62.60	56.20	51.60	622.30	9.55	19.58	72.45	56.98	-19.75	23.64
1984	387.50	150.30	82.50	49.40	49.50	620.20	-5.14	2.52	31.79	-12.10	-4.07	-0.34
1985	379.00	146.10	97.00	53.00	47.10	628.00	-2.19	-2.79	17.58	7.29	-4.85	1.26
1986	401.40	168.60	109.10	60.40	54.00	685.50	5.91	15.40	12.47	13.96	14.65	9.16
1987	391.10	281.70	110.10	68.30	57.50	793.70	-2.57	67.08	0.92	13.08	6.48	15.78
1988	218.50	513.90	114.40	72.00	75.00	843.80	-44.13	82.43	3.91	5.42	30.43	6.31
1989	330.10	583.10	219.00	70.20	133.00	1069.40	51.08	13.47	91.43	-2.50	77.33	26.74
1990	370.80	620.40	481.50	38.50	307.60	1203.60	12.33	6.40	119.86	-45.16	131.28	12.55
1991	949.10	575.70	390.50	29.70	90.20	1854.80	155.96	-7.21	-18.90	-22.86	-70.68	54.10
1992	1001.10	565.90	361.90	26.90	72.60	1883.20	5.48	-1.70	-7.32	-9.43	-19.51	1.53
1993	1689.60	626.40	348.10	31.30	84.70	2610.70	68.77	10.69	-3.81	16.36	16.67	38.63
1994	1904.30	632.20	367.60	36.20	168.10	2772.20	12.71	0.93	5.60	15.65	98.47	6.19
1995	2185.20	639.80	369.00	41.10	235.60	2999.50	14.75	1.20	0.38	13.54	40.15	8.20
		Trend Growth Rate										
1964-95	10.73	23.46	27.44	22.37	15.14	13.85						
1964-74	10.43	55.88	-72.35	60.20	15.42	11.71						
1975-84	10.53	26.39	37.03	27.09	20.44	14.73						
1985-95	21.34	13.86	16.25	-7.71	12.09	17.40						

ERM - Estimated reserve money

Table 5.6 : Relative Shares of Various Reserve Money Sources in total Estimated Reserve Money

Year	(Relative Shares)				
	FEA/ERM	CG/ERM	CB/ERM	CIO/ERM	NNML/ERM
1	2	3	4	5	6
1964	1.04	0.00	0.00	0.00	0.04
1965	1.07	0.00	0.00	0.00	0.07
1966	1.05	0.00	0.00	0.00	0.06
1967	1.04	0.00	0.00	0.00	0.04
1968	1.04	0.00	0.00	0.00	0.04
1969	1.05	0.00	0.00	0.00	0.05
1970	1.01	0.02	0.02	0.00	0.05
1971	1.04	0.04	0.02	0.01	0.10
1972	1.02	0.02	0.00	0.01	0.05
1973	0.90	0.15	0.00	0.02	0.08
1974	0.93	0.10	0.00	0.04	0.06
1975	0.93	0.09	0.00	0.03	0.05
1976	0.91	0.10	0.02	0.04	0.07
1977	0.88	0.13	0.02	0.04	0.08
1978	0.88	0.14	0.03	0.03	0.08
1979	0.95	0.09	0.02	0.03	0.09
1980	0.88	0.17	0.02	0.03	0.10
1981	0.86	0.17	0.03	0.05	0.10
1982	0.74	0.24	0.07	0.07	0.13
1983	0.66	0.24	0.10	0.09	0.08
1984	0.62	0.24	0.13	0.08	0.08
1985	0.60	0.23	0.15	0.08	0.08
1986	0.59	0.25	0.16	0.09	0.08
1987	0.49	0.35	0.14	0.09	0.07
1988	0.26	0.61	0.14	0.09	0.09
1989	0.31	0.55	0.20	0.07	0.12
1990	0.31	0.52	0.40	0.03	0.26
1991	0.51	0.31	0.21	0.02	0.05
1992	0.53	0.30	0.19	0.01	0.04
1993	0.65	0.24	0.13	0.01	0.03
1994	0.69	0.23	0.13	0.01	0.06
1995	0.73	0.21	0.12	0.01	0.08

Note : FEA - Foreign exchange assets,
CG - Credit to Government,
CB - Credit to Banks,
CIO - Credit to institutions and others,
NNML - Net non monetary liabilities,
ERM - Estimated reserve money,

Table 5.7 : Government Revenue Deficit and Balance of Trade (JD Million)

Year	Govern-ment Capital Exp.	GERT	DTB	DST	DCA (-Surplus)
1	2	3	4	5	6
1964	9.20	19.90	40.70	24.50	-4.10
1965	11.20	20.30	45.90	26.80	-2.60
1966	10.40	15.30	56.80	35.50	1.40
1967	23.50	36.90	42.90	27.70	-26.20
1968	23.30	54.20	43.00	44.40	-10.10
1969	23.20	55.90	52.80	63.60	16.30
1970	21.70	50.40	53.40	46.60	5.90
1971	22.50	47.40	64.80	57.90	21.30
1972	31.00	58.90	77.90	67.00	-1.30
1973	40.90	73.30	83.70	60.80	-3.80
1974	43.00	80.80	105.90	83.80	-2.90
1975	79.20	122.30	184.10	118.30	-21.50
1976	76.60	154.90	270.00	109.20	-17.30
1977	142.30	195.60	371.10	168.30	2.50
1978	148.60	203.00	368.00	192.30	85.80
1979	194.30	327.70	467.40	316.50	2.10
1980	227.10	337.10	543.30	287.10	-111.60
1981	255.60	337.90	803.80	444.50	13.70
1982	250.60	331.40	876.60	491.60	118.30
1983	251.60	304.70	891.40	436.30	141.40
1984	232.70	305.80	778.50	382.90	104.10
1985	263.20	364.90	761.60	414.90	0.90
1986	410.80	466.90	591.80	254.00	16.00
1987	363.20	434.40	596.90	317.60	118.30
1988	384.40	509.60	638.50	337.80	105.50
1989	352.60	536.90	585.30	266.20	-104.90
1990	278.70	376.10	1008.60	682.20	272.80
1991	330.30	405.50	994.10	625.20	288.10
1992	419.20	179.80	1461.70	847.70	568.70
1993	603.50	456.30	1585.20	706.50	435.30
1994	465.10	273.90	1362.40	506.80	279.20
1995	533.60	318.80	1347.10	347.20	168.70

Note : GERT - Govt. Revenue Deficit
DTB - Deficit in Trade balance
DST - Deficit in Service & Trade balance
DCA - Deficit in Current Account (-Surplus)

Table 5.8 : Relationship between Government Revenue, Deficit and Foreign Assistance (JD Million)

Year	GERT	FA	FL	FAFL	FAFL/GERT
1	2	3	4	5	6
1964	19.90	15.40	7.00	22.40	1.13
1965	20.30	15.30	2.60	17.90	0.88
1966	15.30	9.90	2.20	12.10	0.79
1967	36.90	40.40	4.30	44.70	1.21
1968	54.20	40.20	4.50	44.70	0.82
1969	55.90	38.40	4.60	43.00	0.77
1970	50.40	35.40	2.50	37.90	0.75
1971	47.40	35.40	7.90	43.30	0.91
1972	58.90	44.50	8.50	53.00	0.90
1973	73.30	45.60	11.40	57.00	0.78
1974	80.80	58.80	15.10	73.90	0.91
1975	122.30	100.60	16.20	116.80	0.96
1976	154.90	66.20	19.90	86.10	0.56
1977	195.60	122.20	58.50	180.70	0.92
1978	203.00	81.70	90.70	172.40	0.85
1979	327.70	210.30	37.60	247.90	0.76
1980	337.10	209.30	71.60	280.90	0.83
1981	337.90	206.30	76.40	282.70	0.84
1982	331.40	199.50	65.30	264.80	0.80
1983	304.70	197.00	76.80	273.80	0.90
1984	305.80	106.10	122.20	228.30	0.75
1985	364.90	187.80	162.40	350.20	0.96
1986	466.90	143.70	159.70	303.40	0.65
1987	434.40	127.60	63.20	190.80	0.44
1988	509.60	155.40	97.50	252.90	0.50
1989	536.90	261.70	184.20	445.90	0.83
1990	376.10	164.30	197.90	362.20	0.96
1991	405.50	225.20	336.70	561.90	1.39
1992	179.80	137.40	328.40	465.80	2.59
1993	456.30	163.30	130.30	293.60	0.64
1994	273.90	175.60	208.00	383.60	1.40
1995	318.80	175.70	483.00	658.70	2.07

Note : GERT - Government Revenue Deficit
FA - Foreign Aid, FL - Foreign Loans,
FAFL - Foreign Aid + Foreign Loans.

Table 5.9 : Jordanian International Trade Balance and Inflow of Foreign Assistance (JD Million)

Year	DTB	DST	FAFL	DTB/FAFL	DST/FAFL
1	2	3	4	5	6
1964	40.70	24.50	22.40	1.82	1.09
1965	45.90	26.80	17.90	2.56	1.50
1966	56.80	35.50	12.10	4.69	2.93
1967	42.90	27.70	44.70	0.96	0.62
1968	43.00	44.40	44.70	0.96	0.99
1969	52.80	63.60	43.00	1.23	1.48
1970	53.40	46.60	37.90	1.41	1.23
1971	64.80	57.90	43.30	1.50	1.34
1972	77.90	67.00	53.00	1.47	1.26
1973	83.70	60.80	57.00	1.47	1.07
1974	105.90	83.80	73.90	1.43	1.13
1975	184.10	118.30	116.80	1.58	1.01
1976	270.00	109.20	86.10	3.14	1.27
1977	371.10	168.30	180.70	2.05	0.93
1978	368.00	192.30	172.40	2.13	1.12
1979	467.40	316.50	247.90	1.89	1.28
1980	543.30	287.10	280.90	1.93	1.02
1981	803.80	444.50	282.70	2.84	1.57
1982	876.60	491.60	264.80	3.31	1.86
1983	891.40	436.30	273.80	3.26	1.59
1984	778.50	382.90	228.30	3.41	1.68
1985	761.60	414.90	350.20	2.17	1.18
1986	591.80	254.00	303.40	1.95	0.84
1987	596.90	317.60	190.80	3.13	1.66
1988	638.50	337.80	252.90	2.52	1.34
1989	585.30	266.20	445.90	1.31	0.60
1990	1008.60	682.20	362.20	2.78	1.88
1991	994.10	625.20	561.90	1.77	1.11
1992	1461.70	847.70	465.80	3.14	1.82
1993	1585.20	706.50	293.60	5.40	2.41
1994	1362.40	506.80	383.60	3.55	1.32
1995	1347.10	347.20	658.70	2.05	0.53